CONTENTS FOR APRIL, 1923.

Illustrations.

"Open Air" Market Scene at E. Kew, (Vic.) ... Cover
Passion Fruit Cultivation—4 illustrations ... 128-9-30-31
Mr. G. W. Wickens ... 136
Fruit Exhibit at Somerville (Vic.) Show. ... 138
Ringwood (Vic.) Show—Fruit Exhibits ... 139

Contents.

Answers to Queries—Doyenne Du Comice Pear—Viticulture queries ... 149-50
Australian Fruitgrowers Conference ... 135
Australian Pomological Committee ... 145
Beautifying the Orchard Homestead ... 144-5
Beekeeping Notes ... 157-8
British and Australasian Market Reports ... 159-60
Citrus Grower—Conditioning Citrus Fruits—New South Wales Growers form Association—Australian Oranges in England ... 142-43
Comedy of Errors:—by Bill Waggleweapon ... 127
Cold Storage of Plums ... 152
Cross Fertilization of Fruit Blossoms ... 140
Dried Fruits—Australian Deligation in England—Prices for 1923 ... 126-7
Fruit Carrying—Improvements in the methods of ... 126
Fruit Export ... 126
Fruit Fly Control—Remarkable Success ... 136
Fruitgrowing under Irrigation 146-7
Grading Regulations—Apple and Pear ... 141
Home Making and upkeep ... 148
New South Wales—Murrumbidgee Irrigation Areas—District News and Notes ... 150-1
New Zealand—Export of Fruit—District Notes ... 147
Passion Fruit Cultivation ... 128,9,30,31
Personal ... 141
Poultry Notes ... 156-7
Queensland—Cultural Notes ... 137
South Australia—Fruitgrowing under Irrigation—Pruning Competition ... 146-7
Sugar Industry—Correspondence Received ... 134-5
Superintendent of Horticulture ... 135
Subscribers Payments Received 160
Tasmania—District News and Notes ... 154-5
They Say ... 143
Viticultural Industry—The Murrumbidgee Irrigation Areas ... 132-3-4
Victoria—Association Meetings —Fruit Shows ... 138-9,158
Western Australia—Control of the Fruit Fly—News and Notes ... 136,151

INDEX TO ADVERTISERS.

Books, Publications, etc.—
"Fruit World" Pty. Ltd., 9 Queen-street, Melbourne, p. xxxii.

Canning Machines—
Bliss, E. W. & Co., Brooklyn, New York, U.S.A., p. xxvii.
Heine, John and Son Ltd., Sydney, N.S.W., p. xviii.
Tombs & Howcroft Pty. Ltd., 369 Post Office Place, Melbourne, Vic., p. xx.

Cold Storage—
Bender and Co., 100 Elizabeth-street, Launceston, Tas., cover ii.

Cultivators, Ploughs, Etc.—
Harvey, D., Box Hill, Vic., p. xi.

Dehydration—
Latham, D. J., Sun Buildings, Queen-street, Melbourne, p. 155.
Vincent, Geo., Oswald-lane, Darlinghurst, Sydney, N.S.W., p. xxx.

Drain Pipes—
Castlemaine Brick & Tile Pty. Ltd., Barker-street, Castlemaine (Vic.), p. 160.

Dried Fruits, Etc.—
McClure, Valantine and Co. Pty. Ltd., 49 William-st., Melbourne, Vic., p. xxxii.
Mildura Co-operative Fruit Co. Ltd., Mildura, Vic., p. xxix.

Fruit Buyers—
Brook, C. M. & Sons, Whiteman-street South Melbourne, Vic., p. xxvii.

Fruit Cases—
Alf. Bloom, Mitcham, Vic., p. xxvii.
Jno. Sharp & Sons Ltd., City-road, South Melbourne, Vic., p. xxii.

Fruit Tree Suppliers—
Balhannah Deciduous Nurseries, Balhannah, South Australia, p. 157.
Brunning, John and Sons, Somerville, cover iv.
Gray, W. G., Allwood Nurseries, Hurstbridge, Vic., p. xxxii.
Gembrook Nurseries, Emerald, Vic. (C. A. Nobelius & Sons), p. v.
Kinglake Nurseries, Yarra Glen, Vic. (J. W. Lawrey), p. xxv.
Picnic Point Nurseries, Bairnsdale, Vic. (C. J. Goodman), cover ii.
Two Bays Nurseries, Mooroduc, Vic., p. ix.

Fruit Graders—
"Cutler" (Tombs & Howcroft Pty. Ltd., 369 Post Office Place, Melbourne, p. xx.
"Excelsior," F. Chilton, City Fruit Markets, Sydney (N.S.W.), p. xix.
"Lightning" Lightning Fruit Grader Co., Merrigum, Vic., p. xxiii.
"Ellis"—E. W. Greenwood, 226-28 Flinders-lane, Melbourne, Vic., p. x.

Insurance, Etc.—
Farmers' and Settlers' Co-operative Ins. Co. of Aus. Ltd., 360 Collins-street, Melbourne, Vic., p. 145.

Irrigation Machinery—
Langwill Bros. and Davies Pty. Ltd., 110 Sturt-street, South Melbourne, (Vic.), p. x.

Lime—
Alkemade Bros., 440 Flinders-street, Melbourne, p. xxi.

Manures, Fertilisers, etc.—
"Potash," Dalgety & Co., all States, p. xii.
"Sulphate of Ammonia," Agents all States, p. 153.

Medicines—
"A.M.S.": T. A. Dickson, Geelong, Vic., p. 158.

Motor Lorries—
"Ford" One-ton Truck: Tarrant Motors Pty. Ltd., Melbourne, Vic., p. xxviii.

Orchardists' Requisites—
McPherson's Pty. Ltd., 582 Collins-street, Melbourne, Vic., p. xxx.

Orchard Tractors—
"Fordson," Tarrant Motors Pty. Ltd., Lonsdale-street, Melbourne, Vic., p. xxviii.

Power and Light—
Langwill Bros. and Davies Pty. Ltd., South Melbourne, Vic., p. x.
Western Electric Co. (Aus.) Ltd. Victorian agent: C. R. Foster, 262 Flinders-lane, Melbourne, Vic., p. xxiv.

Printing—
Horticultural Press Pty. Ltd., 9 Queen-street, Melbourne, p. xiv.

Refrigerating Machinery—
Werner, R. and Co. ... y. Ltd., Richmond, Vic., cover iii.

Seeds, Etc.
Brunning, F. H. Pty. Ltd., 64 Elizabeth Street, Melbourne, p. xxiii.
Sakata, T. & Co., Sakai-cho, Yokahama, Japan, p. xxii.
Watters and Sons, 251 Swanston-street, Melbourne, Vic., p. 145.

Shipping Facilities—
Commonwealth Government Line of Steamers, offices in all States, p. 154.

Spray Material—
"Blue Bell" Arsenate of Lead, 31 Queen-street, Melbourne, Vic., p. iii.
"Gumlypta," Gillard Gordon (Aust.) Ltd., Rozelle, N.S.W., p. 152.
"Harbas" Spraying Oil, E. Russell, 60 Queen Street, Melbourne, p. xx.
"Swift's" Arsenate of Lead, H. W. Peabody and Co., Sydney and Melbourne, p. viii.
"Orchard" Brand, Buckeye Harvester Co., Francis-street, Melbourne, p. xxii.
"Black Leaf 40," F. Chilton, City Fruit Markets, Sydney, N.S.W., p. ix.
"Vallo" Arsenate of Lead, A. Victor Leggo and Co., Melbourne, Sydney and Brisbane, p. vii.
"Black Leaf 40," Coastal Farmers' Co-operative Soc. Ltd., Melbourne, p. xxvi.
Neptune Oil Co. Ltd., Queen-street, Melbourne (Vic.), p. xviii.

Spray Pumps and Guns—
"Bave-U" Power Sprayer, Russell and Co., Box Hill, Vic., p. v.
"Kangaroo," Chandler, D and W., Pty. Ltd., Brunswick-street, Fitzroy, Vic., p. xxix.
"Doncaster," Langwill Bros. and Davies Pty. Ltd., South Melbourne, Vic., p. x.
Cooper "Perfect" Balance, Cooper Engineering Co. Ltd., Melbourne, and Sydney, p. 158.
"Nufrend" Spraying Outfit, Metters Ltd., Rundle-street, Adelaide, S.A., p. xxv.
"Roseberry" Nozzle, Buzacott & Co., Ltd., 7-11 Market-street, Sydney, p. xxvi.

Strapping Fruit Cases—
Gerrard Wire Tying Co. Pty. Ltd., 122 Sturt-street, South Melbourne, p. xvi.

Tree and Stump Pullers—
Trewhella Bros., Trentham, Victoria, stumping jacks, etc. p. xiii.
"Digger" Winch-Tree and Stump Puller, Quick Gears Pty. Ltd., Thornbury, Vic., cover iv.

Wrapping Paper—
Gabb, Chas. R. & Co., 88-94 Franklin-street, Melbourne, p. xxi.

"FRUIT WORLD OF AUSTRALASIA."

Representing the deciduous, citrus and dried fruits industry of Australasia.

Published the First of each Month.

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Victoria (Head Office): 9 Queen Street, Melbourne. **New South Wales:** Carruthers, Farrum & Co., 77 King Street, Sydney. **South Australia:** W. F. McConnell, Grenfell Buildings, Grenfell Street, Adelaide. **Tasmania:** Saunders & Co., Murray Street, Hobart. **Western Australia:** D. L. Hetherington, Colonial Mutual Buildings, St. George's Terrace, Perth. **Queensland:** Gordon & Gotch Ltd., Queen Street, Brisbane. **New Zealand:** Gordon & Gotch Ltd., Wellington, Dunedin and Auckland. **Great Britain:** Harvey H. Mason, 1 Mitre Court, Fleet Street, London, E.C., England.

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E. H. WRAGG, Secretary and Advertising Manager.

Tasmanian Director: HON. L. M. SHOOBRIDGE, M.L.C.

Fruit Export 1923.

Fruit of Excellent Quality.

Heavy Shipments during March.

The fruit so far shipped from Australia this season has been of very high class. We venture to say that in no previous year has the quality been so uniformally good. Packing continues to improve and we are pleased to see the quality of the cases is much better than that used during the past few years.

Owing to the continued dry weather it is more than likely the export season will stop short as far as Victoria is concerned. Growers are finding it increasingly difficult to get sufficient fruit up to the regulation size. The carrying quality of the fruit, generally, should be excellent as the dry weather has had the effect of causing the fruit to be particularly firm.

Several of the Shipping Companies have gone to the great expense in the matter of stowage and some of them have used one inch battens between every row of fruit. Whilst it is desirable to provide a free aid circulation, the opinion amongst the export trade is held that the Shipping Companies in there anxiety to land good cargoes, are liable to emphasize the ventilation question. There is a happy medium in all things and too much ventilation causes the fruit to shrivel. Exporters anticipate, if there are any troubles this year, it will be in this direction.

During March, Tasmania shipped 620,000 bushels the largest shipments being Port Campbell, 113,000 cases Port Sydney 115,000 cases and Argyllshire 110,000 cases.

Improvements in the Methods of Carrying Fruit.

Interview with Dr. Griffiths of the Cambridge School of Botany.

An important interview was granted by Dr. Ezer Griffiths (leader of the party of English Scientists.) to the members of the Victorian Fruit Exporters' Handling Committee (Mr. S. J. Perry of S. J. Perry & Co., Mr. J. B. Mills of J. B. Mills & Co., Mr. A. G. Lester of Messrs. Dennys Lascelles Ltd., Mr. C. J. Parnham of Parnham Pty. Ltd., Mr. A. S. Harrison of The I.F. & M. Co., and Mr. F. R. Mellor) and Mr. F. Burbury, Secretary of the Victorian Fruitgrowers' Central Association. Mr. Burbury apologised for the unavoidable absence of Mr. J. Bailey (Narren Warren) and Mr. R. Mair (Tyabb).

Dr. Griffiths outlined the methods which were being adopted to ascertain the cause of the bad carriage of fruit, and it was very interesting to see the remarkable number of scientific instruments which are being used to discover the accumulation of carbonic acid gas, humidity in the atmosphere in the chambers, variations of temperatures, etc.

There is no doubt that only good can result from the very careful investigations which are being carried out on the R.M.S. "Ormonde" and other vessels; and if the result of same will bring about the general use of an instrument which will immediately advise the engineer of the danger point of his chambers, his work will be very much simplified.

A general discussion on pre-cooling, packing, etc. was entered into and Dr. Griffiths now has the benefit of the opinions of the trade which is so vitally interested in the success of fruit export.

As a result of the interview, investigations will be continued along lines not previously thought of, one of the more important of which will be to ascertain the effect of gradual cooling as against rapid cooling of fruit.

It is quite apparent from the views expressed that differences of opinion exist on this point. To the official mind the opinion has been that the quicker the temperatures are reduced, the better. To the practical mind, the opinion is that the too rapid reduction of temperature can only be harmful to the fruit as a living organism.

The experience of the expert merchants is such that they consider, provided the temperature is steadily reduced until the point at which the chamber is to carry the fruit is held, the better for the fruit. Where this system has been adopted by vessels carrying fruit from Victoria, the success has been uniformaly marked as was instanced in the "Telamon" last year.

A strong point was made that the most ideal way to handle fruit is to have same stowed with *as few handlings as possible* from the trees to the ship's hold.

Dr. Griffiths stated he felt sure that if everyone who handled fruit—from the trees to the ships—realised they had a living organism to deal with and exercised care, a great deal of the trouble would be eliminated.

The final result of the investigation will be awaited with great interest by all concerned, but a considerable time must elapse before a complete report is available.

AUSTRALIAN FRUIT DELEGATION IN ENGLAND.

"Trade Within the Empire."

Messrs. McDougall and Meares, two of the Australian Fruit Delegation, were entertained at Australia House on March 6 by Sir Joseph Cook. There were 120 guests.

Sir Joseph Cook referred to ex-service men who were being settled on the land. It was fair that they should ask the importers to assist them by buying their produce, provided it was equal in quality to that from other countries. Australians were quite prepared to stand on the merits of their products, but buyers ought to stretch a point in their favor when two equal qualities were presented.

Mr. C. E. D. Meares said that, unless Great Britain could assure increased markets, the peopling of Australia by ex-service men and migrants would be unsound economics, for, if production ceased to be profitable, Australia's purchasing power would be correspondingly reduced. Trade within the Empire was a matter of vital national importance to Australia.

Mr. McDougall said that Australia's competitors in canned and dried fruits had the advantage of cheaper freights, and the Mediterranean standard of wages and living was far below the Anglo-Saxon, while California, with her large home market of 110,000,000 of Americans, could afford to dump her surplus when it suited her. Australia was taking every precaution to excel in regard to quality, and she looked to Great Britain to prefer the produce of her kinsmen beyond the seas.

DRIED FRUIT PRICES FOR 1923.

The Australian Dried Fruits Association has issued its prices for new season's apricots, peaches, nectarines and pears. The new schedule of quotations discloses a reduction of 1d. a lb. in the better grades of apricots, and of 2d. a lb. in the crown and plain. All grades of whole apricots, peaches and nectarines are 2d. a lb. lower, with the exception of the crown nectarines, which are 3d. cheaper. Pears are unchanged, and are supplied in 14-lb. and 7-lb. boxes, at ½d. a lb. advance on the price of 28-lb. boxes for 14-lb. boxes, and 1d. a lb. for 7-lb. boxes. Quotations compare with those of preceding season as follow:—

	1922. s. d.	1923. s. d.
Apricots—		
Four Crown	1 8	1 7
Three Crown	1 7	1 6
Two Crown	1 6	1 5
One Crown	1 5	1 3
Plain	1 2	1 0
Slabs	1 5	1 4
Whole Apricots—		
Four Crown	1 2	1 0
Three Crown	1 1	0 11
Two Crown	1 0	0 10
Peaches—		
Four Crown	1 4	1 2
Three Crown	1 3	1 1
Two Crown	1 2	1 0
One Crown	1 0	0 10
Nectarines—		
Four Crown	1 6	1 4
Three Crown	1 5	1 3
Two Crown	1 4	1 2
One Crown	1 3	1 0
Pears, 28-lb. boxes—		
Four Crown	1 4	1 4
Three Crown	1 3	1 3
Two Crown	1 1	1 1

The above prices are for Adelaide, Melbourne, Sydney, Newcastle, and producing centres (except Fremantle and Perth), plus the usual additions to prices for shipment to other ports.

A COMEDY OF ERRORS.

(By Bill Waggleweapon).

Foreword.—Bill Waggleweapon, the manager of the dusting and stamp-licking department of the "Fruit World," in view of his report last month, was commissioned to attend the sub-committee of the Victorian State Fruit Advisory Board. It was a hot day, and Bill came back with his face suspiciously clean, his hair wet, his shirt inside out, boots half laced up, and a towel was bulging from his pocket. He explained that it was such hot work taking notes in the conference room, he frequently had to wipe his face and hair with a towel he borrowed: on leaving, he forgot to return the towel. He submits the following as an accurate report of conference.

[Further reference to this matter will be found on page 141.]

Characters:

Lord Penningtonius *A Minister of State*
Meekingski . . . *An Officer of the Court*
Oldhamme . . . . . *A Vendor of Fruit*
Tavernio . . . . . *A Nobleman*
Airdicus . . . . *A Cool (store) Fellow*

Scene 1.—The Minister's State Room.
(*Enter Penningtonius.*)

Pen. (singing): The world is wide, the air is free, and lo!
A man of many parts am I; quite godlike
In my power and excellence. For I decree
The sun to rise, and the gentle moon to shed her beams
Of mystic light on lovers cuddling in the parks.
Yea, at my word the fruits expand on orchard trees,
And I but say the word, and colors blush and glow
Full seventy-five per cent. per case. Hail, Scribe!
(*Enter Scribe.*)
Pen.: Take now thy tablet, and record these words—
But first wipe from thy mouth the crumbs which nestle there.
"I, Penningtonius, the one and only, hereby decree
That at the meetings dealing with the fruit,
The growers and exporters shall be men
Of my own choosing. Tavernio, for one, for he hath
A pretty name, and is a dear old boy
Next I decree
That Baileyana is too fat, so out he goes, and in his place
I'll put a man from the Co-operative Distributors,"
Now get thee hence, Scribe, finish thy lunch of bread and cheese
And I will forth and dine at Menzies.
Scr. (aside): Ain't he a bird?
(Exeunt.)

Scene 2.—Tavernio's Counting House.
(Enter Tavernio, Oldhamme and Scribe.)

Tav.: Hail, Oldhamme! Mind the step; right glad am I
To see you here. For you, like me (hush) got here on the nod.
Hark! who comes?
(*Enter Meekingski.*)
Meek.: Good morrow, sirs, your presence cheers me,
For I did dream beforehand that you would attend
The fruit council meetings, in place of others.
Now my dream's come true.
No growers here yet? It matters not,
For we ourselves can settle these small points
Relating to the color of the fruit—
(*A loud bump—a sound of scrambling.*)
(*Enter Airdicus.*)
Tav.: What-ho, she bumps! Ha! Ha!
Old.: } Ha! Ha! Ha!!
Meek.: }
Air.: I'd like to bump your heads, you silly chumps
For saying unto me, "What-ho, she bumps."
Tav.: That's a warm saying from a cool store man,
Your face is red——
Air.: Yea, seventy-five per cent. of color, you might say,
You fellows get my goat. Who put that banana skin
Outside the door? But I suppose 'twas one
Who meant to prove he knew such fruit
Differed from apples or pears.
Tav.: Order, order! Let's to business get.
Meek.: Now boys, be quick, and fix this little matter up;
Five minutes, I should say, would do the job.
Here are the resolutions I have drafted, all agreed?
That's carried. Thanks, I'll have a smoke.
Air.: You're full of business, sirs, but look ye here,
I've been and torn my pants when I fell down;
Look at this slit across the back—
Tav.: Don't worry, Airdicus, see, I'll press this bell,
My typiste fair will bring needle and thread
To render first aid to the pants.
Air.: Oh, sirs, I blush; nay, stamp-edge will do;
But I must say that when I fell
I blemished ten per cent., so now you see
I'm not first grade.
Meek.: He hath a big black spot of large diameter.
Tav.: When Adam in the Garden fell, 'twas with an apple
That gentle Eve did tempt him. But Airdicus
Is more up-to-date, for a banana skin did cause his fall.
Scr. (aside): Yea, and we all have fallen at this conference
For these decisions are as nought, and vain;
For they do lack the driving force of common sense
Without which all must fail.
Exeunt.

Passion Fruit Cultivation is Profitable.

The Victorian Industry Described.

By J. Farrell, Orchard Supervisor, Victorian Department of Agriculture.

The Passion fruit vine flourishes in every Australian State.

In this article particular reference is made to the production of Passion fruit in Victoria.

Enquiries from England and America reveal that there is an ever-expanding opportunity for exporting this fruit—bottled—at profitable prices.

The Australian market has not been developed. As the fruit ripens it is rushed off to the central markets at times there are gluts. There is no concerted action by producers to advise the public when supplies are due to come forward and no advertising has been attempted to teach the public the benefits of securing supplies for bottling and storing against the days when no fresh Passion fruit is available.

Herein big opportunities lie dormant.

THE PASSION VINE (Passiflora edulis) belongs to the natural order Passifloræ, and the place of its origin is Southern Brazil. There are probably over 200 known species of this order, many of which yield edible fruits, but, because of its being so amenable to commercially successful cultivation, P. edulis is made the principal variety grown in Australia writes J. Farrell Orchard Supervisor in the Victorian "Journal of Agriculture."

The localities in Victoria where passion fruit is grown commercially, in Wandin, Seville, Silvan, Monbulk and Mount Dandenong, and the portions of these localities where it is grown have an altitude ranging from about 500 feet to 1,500 feet, and they lie between 37 degrees and 38 degrees south latitude. Elevations or gentle slopes make the best sites for passion plots; the vines should not be planted in low-lying secluded valleys in which frosts are pocketed.

New South Wales and Queensland also offer a genial home to the passion vine, and it has been cultivated commercially for some years in these States.

The Government Statist has supplied the following information regarding the quantity of passion fruit grown in Australia during the last few years:—

Year.	Victoria.	New South Wales.	Queensland.	Total.
	Bushels.	Bushels.	Bushels.	Bushels.
1918-19 ..	10,447	49,049	5,553	65,049
1919-20 ..	17,635	58,901	3,707	80,243
1920-21 ..	10,775	24,819	10,375	45,969

The estimate for 1921-22 for Victoria is 16,759 bushels. It may be interesting to know that in 1918-19 6,840 bushels of passion fruit were produced in Norfolk Island. No later figures for that place are available.

Because of the ever increasing demand for passion fruit, the area under vines in the districts which have proved suitable for their cultivation is being considerably extended.

Up to the present the local markets have been capable of absorbing all the fruit produced here, but in consequence of the rapid extension of the areas under cultivation, it has been deemed desirable to make provision for sending a possible future surplus to oversea markets.

Situation and Climatic Conditions.

The passion vine is an evergreen, and makes a little growth during mild winters, and occasionally growers find to their cost that it should not be planted in cold, low-lying situations, especially between hills, where it is most likely to be attacked by winter frost, the effect of which is more severe on plants which suffered from the fungus (Gloeosporium) during the previous late summer and autumn than it is on healthy ones.

In hilly country the site for the vine plot should preferably occupy an elevated part with a gradual slope to the north or north-east, and plants do well on the north-west slope, provided the site be nicely sheltered. Southerly slopes are mostly avoided, but even on these, if not too abrupt and suitably sheltered, good crops are sometimes harvested. Passions like shelter, and are not averse to a reasonable amount of air circulation, but they abhor wind-swept positions, and particulary during winter.

No hard and fast rule can be laid down in this regard, but intending planters should give the matter the consideration it deserves, and to determine the needs of individual cases. In these undulating localities sufficient shelter is sometimes afforded by the lay of the land, as adjacent hills often intercept prevailing winds. Then in grubbing the site for the passion plots belts of native timber are allowed to remain as shelters. Where these natural advantages are absent, however, break-winds of Pinus insignis, gums, or other suitable trees, are employed.

* * *

Soils.

The soils in which passion fruit is grown commercially here are deep, friable, and fairly rich, but are of a rather porous, loose, or open construction, and are, therefore, liable to dry up quickly. These districts being hilly, however, have a fairly heavy rainfall, and sufficient capillary moisture for the use of the vines is maintained by intensive and continuous cultural treatment of the soil during warm weather.

There seems to be no reason why the northern irrigation areas should not be suitable for passion fruit culture, but sufficiently extensive experiments have not yet been carried out to settle the question.

Individual vines thrive and crop well in many of the private gardens on the lighter grey soils around Ringwood, Bayswater, (Vic.) and several other places, and one is forced to conclude that this plant is more particular concerning climate than it is in regard to its choice of soil.

* * *

RAISING YOUNG PLANTS.

YOUNG VINES ARE RAISED from seeds, which should be saved from fruit ripening from April to June, as these give a higher percentage of germination and stronger plants than those ripening at any other time. The need for careful bud, scion, and seed selection when propagating other fruit trees is now generally recognised, and it is desirable also when establishing a passion fruit garden that this principle should be observed.

The seeds for propagation purposes should be taken from the large fruits of vigorous healthy plants known to be prolific bearers. These fruits should not be picked until fully matured, then allowed to wilt and dry naturally, and afterwards kept in a dry cool place until the seeds are required for sowing. The seeds may be sown in drills in beds or boxes from the end of September until the beginning of November, according to weather conditions prevailing locally.

The best plants are those grown in the open, the earlier the seed is sown the better, and the young vines may be

protected from late frosts

with the boughs of trees, with hessian or other suitable material. Before sowing the seed the soil should be brought to a fine state of tilth, and the seeds may be covered with an inch of fine earth.

The seeds soon germinate, and the young plants appear above the ground, and if the soil be kept free from weeds and nicely watered during the summer the result is usually what is desired.

Seedlings are depicted in Fig. 1. A gives a section of a bed, and B shows them growing in a drill. Those in the bed made the better growth, the seed having been sown earlier than that for those in the drill, and on account of having received more attention than the latter during the main period of growth. The writer would recommend the drill system, because the soil between the drills can be kept cultivated and the stems and lower parts of the plants would get more light and air than those in the beds. The seedlings should not be allowed to grow too thickly, and the weak, useless ones should be weeded out so as to give the good plants sufficient room. The best results are obtained when the seedlings are allowed a reasonable amount of space—about 6 inches apart, and while growing in the nursery their stems should be kept single, without side shoots, to a height of from 4 to 6 inches above the soil level.

The matter of producing young vines is a comparatively simple one, and growers should raise those required for their own use. Then, when establishing or extending the plot, the young vines are on the spot, and it is only a matter of carefully lifting out each one with a spade, keeping its soil and roots intact, and placing it in its permanent position. When planting takes place under these conditions, the results are much more satisfactory than when the foliage branches and roots of the young vines are crushed and broken in transit from one place to another.

Seedlings raised under glass or forced with heat are not recommended, as they are usually of a yellowish colour, delicate, and rarely grow into as strong and profitable vines as those raised in the manner explained. In order to obviate injury to plants in transit, seedlings are sometimes grown in pots and forwarded in them to growers, but potted plants are also inferior to those grown in the open.

* * *

Preparation of Land.

When the grubbing is finished, the plane of the site may be graded to remove surface inequalities, and crab-holes should be located and filled in. Then, if not subsoiled, the land should be ploughed to a depth of from 10 to 12 inches, according to the depth of the surface soil. During winter is the best time for grubbing; grading and ploughing may be done afterwards, as soon as the land is in a fit state. Cultivation should then be continued during the following summer and autumn to get the land into a mellow, sweet condition to receive the young vines in the following September or October, when the frosts are over.

When is is intended to utilize previously-cultivated land, this should be ploughed, and, if necessary, graded and brought into a fine state of cultivation prior to planting.

Where favorable drainage conditions are non-existent, sub-drainage should be provided. While good natural drainage is desirable, it should be remembered that the great fault with the red soil is that, in some places, its subsoil is too porous, and consequently in hot weather, and when water is not available, growers are obliged to resort to extra-intensive cultivation to maintain sufficient soil moisture for their vines.

* * *

Planting Out and Erecting the Trellises.

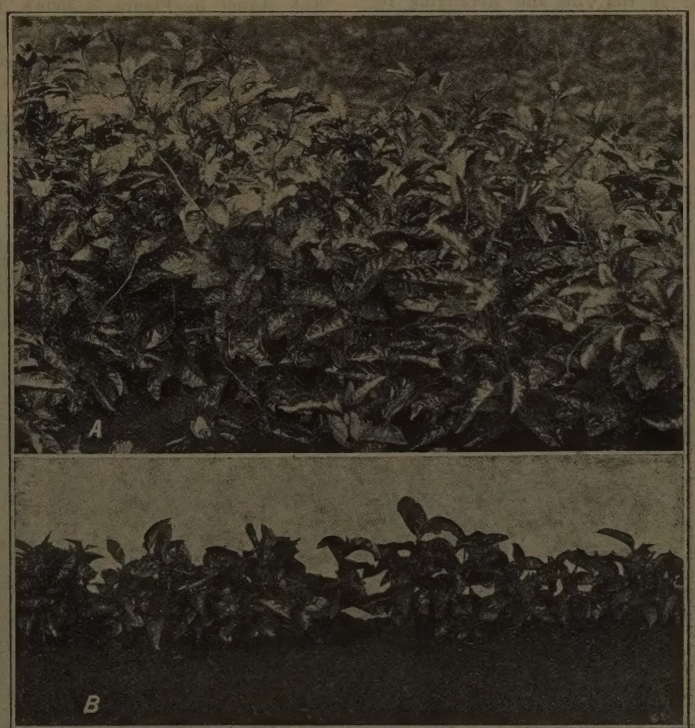
The soil having been brought into a fit state of tilth to receive the young vines, pegs are used to mark the exact positions in which they are to be planted. For planting the most suitable distances apart are 12 ft. x 18 ft. —that is, 12 ft. between the rows and 18 ft. between the vines in the rows. The 12 feet spaces between the rows admit

sufficient light and air

to the vines, and facilitate proper cultivation; while the 18 ft. spaces between the plants in the rows afford natural expansion of the fan-shaped structure which they are made to assume when being tied up on the trellises. The end headlands are usually 20 ft. wide, this being sufficient when cultivating, spraying, &c., while those at the side are only 12 ft., cross-cultivation, &c., being precluded by the wire trellises which run from end to end.

Frequently the trellises are erected before planting the vines. This is done by placing the first or corner post of the block 20 ft. from the end and 12 ft. from the side fence. The remainder of the first row of posts are placed in a straight line at the distance stated from the side fence, and 18 ft. apart to the other end, where another 20 ft. headland is provided. The second row of posts is placed similarly 12 ft. from the first, and so on, until all those necessary for trellising the block are in position. Three to five, 8 to 10-gauge wires are employed to support the vines, the weight of which, with the tight condition of the wires, exercise a considerable strain on the end posts.

To keep these rigid, however, they are supported by the stays as shown in Figure 2, which illustrates a section of the trellises recently erected by Mr. W. Bowman on his passion block at Silvan. In setting out the young vines one is planted midway between each two posts in the trellis, and exactly beneath the wires. Thus the vines will also be 18 ft. apart, and have a space of 9 ft.



Illustrations supplied by "Journal of Agriculture"

FIG. 1. Passion Fruit Seedlings—A, in a bed; B, in a drill

on each side of the stem for fan expansion.

Planting-out is usually done between the end of September and the beginning of November, according to the conditions prevailing in the different localities, and when the frosts are over. The holes should not be made deeper than the soil has been cultivated, for the obvious reason that basins formed in the subsoil may collect and retain surplus water, which is injurious to the plants.

In planting, the vines should be placed at the same depth as they grew in the nursery, and at this time the advantages of the planter having raised his own vines will be ample apparent. The holes should be sufficiently wide to permit of the roots being made to radiate naturally before the soil is filled in.

When pegs are used to mark the correct positions for the vines a planting board should be employed to ensure that the plants are accurately placed in those positions.

The vines are usually planted out when one or two years old, and then supported by stakes until trellises, with four or five wires, are erected. Should trellises constructed with three wires only, as shown in Figure 2 be in position prior to planting, stakes are also used to conduct the vines on to the wires, the lowest of which is further from the ground than when four or five are employed.

Tying up the Vine and Arranging its Branch System.

When the vines are planted out, and the trellises erected in the manner explained, the next operation requiring attention is tying them up on the wires, and when planted 12 ft. x 18 ft. as shown, there are 200 plants per acre to be handled. The desired symmetrical appearance and future stability of the vine's superstructure largly depends on how it is treated at the tying-up. This part of the work should, therefore, be done in a

scientific and systematic manner

and on the most approved lines. It should be generally understood that the passion, like the grape vine, produces tendrils which during their development take hold of branches, laterals, wires, &c., with which they come into contact and are not easily detached when growth ceases and tendrils become dry and hard.

Now the advantages which follow the proper spacing and directing the leaders of the vines on the wires prior to the development of the tendrils will be easily realized. Strips of the green leaves of New Zealand flax and binder twine (made from the fibre of the same plant) are generally used in tying up, and the bands should not be made too tight, as the leaders require sufficient room for natural expansion. Bands are tied at each point where the leaders come into contact with the wires, and sometimes, also where they touch the wooden droppers, or the vertical wires occasionally employed to afford further support to the vines and strengthen the espalier.

The sketch in Figure 3 shows the mode of strengthening the trellis, and depicts four methods of trellising vines. It is desirable to keep the wires constantly tense and the framework rigid, because a freely vibrating trellis is not conducive to the growth of passions. Seven to nine saplings about three-quarters of an inch in diameter are employed to stiffen that portion of the trellis occupied by each vine and these are woven about 18 inches apart, one against the other, into the wires, on the principle of wicker-work, as depicted at (a) in section A.

Here also is the figure of a young vine which may be regarded as one or two years old, according to its development prior to planting out and the amount of attention bestowed on regulating its branch system of six leaders; and (b) shows the formation of the plant a year or two later, when the number of main arms have increased to twelve; while (c) with sixteen leaders, illustrates the fully developed vine of, say five or six years old, and occupying the whole of the section of espalier assigned to it.

It is not suggested that the main arms can be made to radiate from the crown as accurately as the lines drawn here to represent them, but the writer would invite experienced growers, as well as intending planters, to accept this as the most modern and approved plan, and in trellising their vines to imitate it as closely as they can.

The type of vine recommended has a single stem, about six inches long, and only the main arms are shown. These give out numerous light laterals on which the fruit is produced. In order to maintain healthy, vigorous growth, with a view to producing fruit of the finest quality, most of the

laterals should be removed

at the pruning. This can be much

FIG. 2, Mr. W. Bowman's Passion Fruit trellises at Silvan (Vic.)

more easily accomplished when the leaders assume the positions shown and are made firm, than if allowed to become twisted into objectionable shapes, as so often happened during former years. The condition of affairs in recent years, however, has been much more satisfactory because of the growers losses, due to lack of attention in this regard, and their having had ample time to make a calm survey of the position.

Three other methods of trellising are depicted in section B—(a) shows a rather nice type of vine with single stem, and it will be observed that the two outside leaders are drawn up from

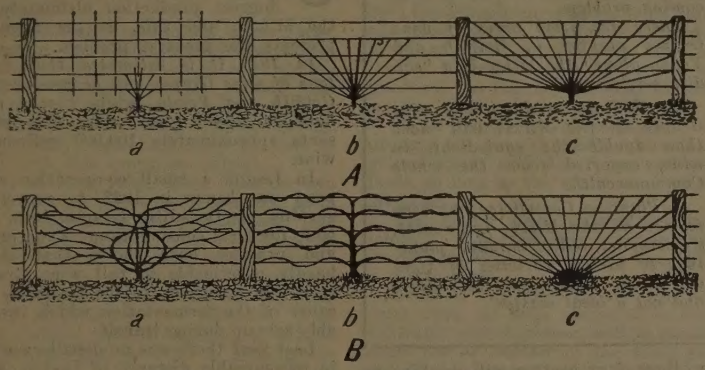


Fig. 3 Four methods of trellising Passion Fruit vines.

the crown so as to describe a circle, cross each other at the centre wire, and then incline in opposite directions to the top corner of the espalier. Two other leaders inclining more to the vertical, cross each other higher up, and again rise gradually to the top wire. The next pair of leaders rising from the crown describe such an angle to the vertical as to leave the usual space for the centre dropper. The fourth pair of leaders strike out almost horizontally, and are supported by the bottom wire as shown. Now it will be seen that the vacant spaces on the trellis are filled in by sub-leaders, or side arms, growing on the main branches.

The mode of trellising passions shown at (b) has been practised only to a limited extent. This consists of bringing the main stem up to the top wire, and during its growth twisting the horizontal arms, produced from suitable nodes, around the wires and tying them in position. From what is known of this method it cannot be recommended, as the side arms rarely make uniform growth, indicating that a less equal distribution of sap is maintaned through the centre stem than obtains when the leaders radiate from a crown. This method is largly resorted to in trellising grape vines.

In (c) we have the most undesirable formation. Here, instead of a single stem, the necessity of which has been previously emphasized, the leaders constituting the fan or framework of the vine are allowed to come from below the soil level. This type is of common occurrence, but should neither be planted nor grown, as it is practically impossible to keep the butts of the leaders free from fungi, and possibly deleterious soil acids, and particularly where wet soil conditions exist. Many vines of this formation have died through the rotting of the bark under the soil, even where no fungous organisms were found.

There are other methods of trellising, and many modifications of those illustrated, but the one depicted in section A typifies, as far as the writer has been able to determine, the best and most practicable style for general adoption.

The young vines should be tied up as early as possible, so that its first produced tendrills may be utilized in clasping the wires, which offer support, and facilitate its systematic construction and satisfactory development.

In Figure 4 are given photographic illustrations of eight-year-old vines, depicting two of the classes of stems to which reference has been previously made. A shows a single stem with leaders striking off from the crown six inches above the ground, but this can not be regarded as the best type of its class, as a sufficient number of main arms, sub-leaders and side shoots have not been encouraged to complete the framework.

The required number of leaders may easily be obtained from the crown if judicious pruning be practised during the first few years of growth; but, like most kinds of fruit trees, the leaders become bare of fruit wood below if allowed to produce too many side arms or shoots above, as may be seen by the picture.

The leaders are sometimes cut hard to remedy this defect, and good growths are often produced, but the resultant framework is rarely as substantial or the vine as fruitful, as when properly trained at the beginning. B is one of the class which establishes itself by throwing up two or more leaders from below the soil level, and for this reason is afterwards subject to the disadvantages previously mentioned. Vines of this type are rarely selected for planting.

What usually happens is that after being planted out the seedlings are cut down by frost, causing numerous suckers during the following period of growth to come from that part of the stem immediately above the root systems. Then instead of selecting one of the most suitable of these growths for a single stem, and keeping the others suppressed until the basal buds die out, all the growths are allowed to remain, causing extra labour and anxiety not experienced in treating the single stems.

The specimen under review has three stems, but is nevertheless a healthy and productive vine. This part requires more care and attention, however, because of the disabilities explained than the single stem. The fungous organisms, or lowly forms of vegetable growth which attack the roots and stems, as well as those which affect the foliage and young growths, thrive best in moist shaded situations.

(To be continued.)

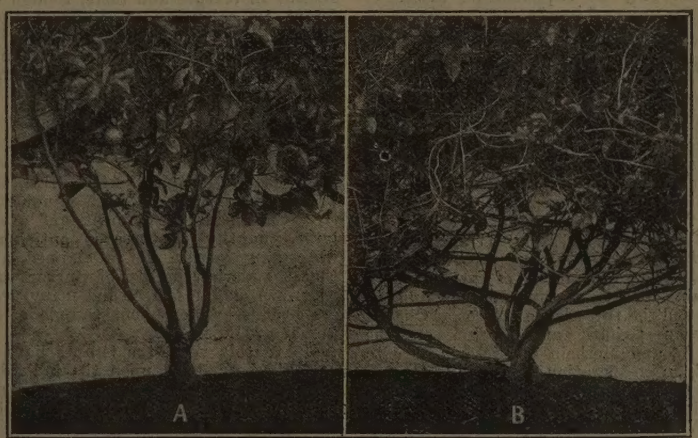


Fig. 4 Sections of two eight-year-old Passion Fruit vines.

The Viticultural Industry on the Murrumbidgee Irrigation Areas.

A Thoughtful Survey.

(By Our Special Correspondent.)

On the Murrumbidgee Irrigation Areas Grapes are grown for the fresh fruit market, for export, for drying, and for wine-making.

The profitable disposal of the wine Grapes is the present and coming problem.

There are 4,000 acres of wine Grapes planted in Griffith and Yenda alone; the latter is a "soldier settlement."

By 1927 the production of wine Grapes on the M.I.A. will more than double the equivalent, in wine, exported from the whole Commonwealth.

A Planting Committee has been formed on the M.I.A. to prevent, if possible, indiscriminate plantings of useless varieties of trees and vines. This should be a State and not a local matter.

AT THE PRESENT time on the Murrumbidgee Irrigation Areas the viticultural industry is that which presents the largest range of problems, both with regard to production, handling, and to marketing. Vines of all varieties are planted extensively; Grapes for local markets, export, wine and drying purposes are produced in yearly increasing qualities. In one season the soldier settlers increased the acreage of plantings by 90 per cent., mainly wine-making varieties, with a sublime faith in the willingness of private enterprise, or failing this, Government assistance, to provide suitable and necessary facilities for manufacture in the coming years.

So far, the local co-operative companies in Griffith and Leeton, and such independent growers as prefer to market their Grapes individually, have found reasonably satisfactory markets throughout Australia for the non-exportable varieties.

Experiments in export, the Daria or Ohanez variety chiefly, proved of educational value, though not invariably satisfactory from the purely financial point of view. Last season some 1,000 bushels were sent from Leeton and Griffith through their co-operative companies to Java; 500 bushels to England.

Unexpected rains while some of these Grapes were being picked and packed, are believed to have been the chief cause of such loss as occurred, together with the fact that a fair quantity of these Grapes were not taken from the vines until rather late in the season. In future years it is proposed to pick and pack earlier in the season. The surplus may then be stored, and exported as occasion demands. It is hoped that the Grapes will in this way keep very much better than if left on the vines and picked and packed only as requirements arise.

* * *

GRAPES FOR EXPORT.

THE cases used for export contained approximately 28 lbs. of fruit and 5 lbs. cork dust. For the most part all the packing was done on the vignerons' own premises, but in Griffith a responsible member of the co-operative company's staff was kept on the road during the packing operations, visiting the farms and supervising generally.

It is confidently believed that a large market awaits the export Grape, once the initial difficulties of producing a reliable pack are surmounted, and to this end the three large centres of Ohanez growers—Griffith and Leeton on the M.I.A., and Merbein in Victoria—are to work in co-operation this season to control the marketing of this Grape. Negotiations are on foot with the growers in Western Australia, the only other district in which the Ohanez is largely grown; and if the results are satisfactory, these four centres will combine to deal with practically the whole of the export Grape trade, as it stands at the present day.

In view of the fact that the Ohanez is well known already on the English market, since large quantities are yearly forthcoming from Spain, under another name, *i.e.*, the Almeria, it may be supposed that Australian Grape exporters may look for encouraging results.

While speaking of export Grapes, it may be remarked that, although the Ohanez is, at present, the great bulk of the Grapes sent from the M.I.A. and elsewhere, to foreign markets, growers are being recommended to plant other varieties, such as Black Malaga, which is similar in texture and taste, though different in colouring. Undoubtedly a Black Grape, if not highly priced, is a more marketable proposition than a white variety, as it presents a more pleasing appearance to the eye.

* * *

DRIED VINE FRUITS.

IN THE DRYING VARIETIES, such as have made Mildura famous, the Sultana is pre-eminent, and a very large quantity of these is anticipated in coming years. It is claimed also, that a superior quality of Currant may be grown on the M.I.A. and many growers produce an excellent sample of the Lexia, or Raisin.

Up to this year, the Grapes have invariably been dried upon the individual farms; but a private company has now been formed, which is prepared to buy all drying fruits outright. This company is handling a quantity of the drying varieties of Grapes for the settlers, and are paying, it is understood, £9/10/- per ton, green.

* * *

WINE GRAPES PREDOMINATE.

UNDOUBTEDLY THE WINE GRAPE, however, will have the biggest production ultimately on the M.I.A., and this, at the moment, presents the greatest problem.

In 1923 it is estimated that 1,000 tons of wine Grapes will be produced in Griffith and Yenda, while *Leeton may have 500 to 600 tons, fresh.* This represents approximately 100,000 gallons of wine.

In Leeton a small co-operative company was begun in 1922, to convert a surplus of Doradillo Grapes into dry wine for local consumption. Experiment and practice have shown that it is hardly practicable to rail wine Grapes from the vineyards to the factories, because of the fermentation which invariably sets up during transit.

Last year there was no distillery within measureable distance of Leeton, and, by the formation of this little company, the Doradillo growers were saved, in part, from the complete loss of the value of their crops.

A distillery has now been erected by Messrs. Penfold's Wines Ltd., adjoining their Griffith winery, and it is possible that the usefulness of the Leeton growers' co-operative venture no longer exists. The taste for *dry wines* has not increased to any extent, and their sale is slow compared to that of the sweeter types. With the opportunity now given, it is likely that the Leeton growers will

send their Doradillo Grapes

into the Griffith factory of Messrs. Penfold's Ltd.

In Griffith, Messrs. McWilliam and Sons have been established for some years; with a vineyard of their own comprising about 90 acres of all wine varieties, and a factory large enough to handle a certain proportion of other growers' crops, in addition to those grown upon their own vineyard. This firm is also building a factory at Yenda, which is strictly a soldier settlement, and where a large production of wine Grapes is anticipated in the coming years.

Messrs. Penfold's Wines Ltd. opened their factory in 1921. They have no vineyard of their own on the M.I.A., but handle Grapes under contract, from some 700 acres, as well as other supplies not contracted for. Last year, 1922, the Penfold factory processed about 400 tons of Grapes, equalling 60,000 gallons of wine, value about £12,000, but the factory has undergone considerable alteration and extension in the past 12 months, and a distillery added, so that the production for 1923 will probably be nearly trebled.

Negotiations have been pending for some considerable time for the formation of a co-operative winery, on a large scale, in Griffith. A large proportion of the vines even now planted are not under contract to either of the proprietary wineries, but the crops can be processed by these for another year or two, since a large proportion of those vines which are under contract are not yet in full bearing.

This surplus output, for which no provision has yet been made, is naturally a subject for anxiety on the part of the growers concerned.

To date, in Griffith and Yenda alone, there are 4,000 acres of wine Grapes planted.

In 1927 the production from these, including the comparatively small production from the Leeton end of the Areas, will considerably *more than double the equivalent, in wine, exported in 1922, from the whole Commonwealth.*

Obviously, something must be done to cope with this enormous output.

Private enterprise, apart from the two firms already mentioned, does not seem inclined to tackle the proposition. One objection invariably raised is that, as a general rule, it is not satisfactory to run a winery on contracts to growers, the manufacturers seem to prefer to raise and grow their own raw material. Also it is claimed that irrigation-grown wine Grapes do not produce a good grade wine.

With regard to the quality of the wines produced from Grapes grown on the M.I.A. and their relation to wines from other districts, the

opinion of Mr. H. E. Laffer,

formerly of Roseworthy College, S.A., later Government Viticultural Expert to N.S.W., and now on the staff of Messrs. Penfold's Wines Ltd., is of interest. Mr. Laffer has, since the establishment of the Penfold factory in Griffith, experimented widely with the M.I.A. Grapes, and he is of opinion that the Areas can, and do, produce a quality of wine Grape, unequalled in any other irrigation district in Australia, and that, if the growers are educated to deliver their crops in the proper condition, a *standard quality of wine* can be made there, of both the sweet and dry varieties.

Mr. Laffer considers that there should be no difficulty in marketing these wines, as a district production, with much success in future years.

It is true that the conditions prevalent on the Areas are not conducive to the production of such highly-graded wines as is the Hunter River district, in N.S.W., and other parts. But from a marketing point of view such high standards of quality are unnecessary, and the wines produced on the M.I.A. are useful, commercial wines.

While on this subject, it may be pointed out that the Australian type wines, although named similarly to European types, yet are a completely different article. For example—an Australian sherry, produced upon the best Grape-growing district for that type, in the whole of Australia, may be, and generally is, a remarkably good wine. But to the connoisseur, whose taste is formed on sherries produced in France or Spain, the Australian import is not a sherry at all.

This applies most particularly to the sherries, but all other "types" suffer only in a less degree when judged on the established European standards—even although they may be better wines. So much is this the case, that it has been suggested that the exporters of Australian wines should invent a series of names to identify the Australian productions, which shall have no relation to the nomenclature accepted on the European standards to typify the established types of wine produced in Europe.

As a matter of fact, however, apart from the connoisseur and the wine taster, who form only a negligible percentage of the purchasing community, it is confidently expected that wines grown and processed on the M.I.A. will, in years to come, find

a ready market overseas

amongst the general public, who are not critical about orthodox types and standards, so long as the wines are good and palatable.

"One man's meat is another man's poison." The great day financially for the vine-growing industry on the M.I.A. is yet to come.

Sometime in the future an hour waits when the large vineyards in South Australia and elsewhere, will be stricken under one or another of the many pests and blights against which the vigneron wages eternal warfare. The crux of the situation for the M.I.A. lies in the spray cart and the small vineyard. On the M.I.A. 15 acres under vines is almost exceptional, the majority of vineyards range from 5 to 10 acres. In South Australia, 50 to 150 acres. All the eggs in one basket, as it were, is the rule.

On the M.I.A. the spray cart or its equivalent, is rarely missing from any vineyard; it is needed, in any case, for all the other branches of orcharding, citrus and deciduous. The orchardists realize that the spraying is as useful in its way as the watering and cultivation, and the outfit is always ready for use.

Practically there are only two diseases which, so far, have caused anxiety to the vine growers. These are Black Spot and Downy Mildew; there is also a small amount of Leaf Mite. The two former diseases, in the years of their prevalence, are obviously still more stimulated by the irrigation conditions, so that, theoretically it is, in these years, desirable to spray both before and after a watering. The Bordeaux and Burgundy mixtures are used universally throughout the Areas.

So far as the quality, size, and so on, of the Grapes on the Areas are concerned, it is significant that efforts are now being made towards scientific experiment with regard to stocks and grafting of the various kinds of vines.

The Black Muscat grown on the M.I.A. and certain other districts, from cuttings or rooted vines, incline to be straggly and small in the bunches. But the same variety produced in certain Cumberland (N.S.W.) vineyards, where the Muscat has been grafted on to

phylloxera-resistant stock

might almost be taken for another Grape, it is so vastly improved in size and quality. Similarly, a vigneron at Leeton has Black Cornichon Grapes grafted on to Ohanez stock, and the result is infinitely superior to the production of Black Cornichons elsewhere.

By a recommendation from the Planting Committee of the M.I.A. (a body recently formed to advise and, in some part,

control indiscriminate plantings

of useless varieties of trees and vines), the Irrigation Commission Nurseries in Leeton and Griffith are commencing experiments upon these lines, for the use and benefit of the settlers.

Strictly speaking, one would have thought that an undertaking of this kind should be a State matter, since not only the Irrigation Areas, but vine-growing districts throughout N.S.W. in general, may expect to benefit by the results attained.

VITICULTURAL NOTES.

Varieties for Table Grapes, Drying, Export and For Wine.

(By F. de Castella, Victorian Government Viticulturist).

For Wine Making.

For Dry Red—Shiraz or Red Hermitage (correct name Syra); Mataro or Espar, more popular in South Australia than in Victoria. Mondeuse, a recent introduction of great promise; Alicante Bouchet and Calmette, also recent introductions, yield red juice.

For Sweet Red—Shiraz, Grenache and the true port varieties, Touriga, Bastardo and Alvarilhao.

For Muscat—Brown Muscat, Muscat de Fontignan.

For Dry White—White Hermitage or Uni Blanc; Riesling; Semillon (wrongly known as Sheppard's and Hunter River's Reisling); Chasselas (also of use as a table grape); Pedro Ximenez or Spanish Pedro.

For Sweet White—Tokay (probably the Hungarian Hars Levelu); Pedro (Rutherglen type); Pedro Ximenez; Verdelho; Aucarot.

For Brandy—Doradillo, also largely grown for this purpose in Southern Spain under the name of Jaen Blanco or Jaen Doradillo.

La Folle, the leading Cognac grape, is not extensively grown in Australia, though our so-called White Hermitage is identical with St. Emilion, a very popular variety in the Cognac district.

Table Grapes.

Early Varieties.

Golden Chasselas—The earliest white grape of quality. The size of the berry is scarcely sufficient for general marketing, and it is soon superseded by **Raisin des Dames**, or **Bicane. Black Hamburg**, not largely grown owing to tenderness of skin.

Midseason Grapes.

Cinsaut, better known here as Blue Imperial, and also (erroneously) as Black Hamburg, excellent flavor and of fair size, also a valuable wine grape.

Black Prince, a larger and more

showy grape, but in many districts the setting of the fruit is rather unsatisfactory; it ripens a little later than Cinsaut.

Late Grapes.

Waltham Cross or Rosaki, one of the finest late white table grapes. In South Australia it is grown under the name of White Malaga.

Belas Blanco or Valensi, Santa Paula.

Late **Black Grapes.**

Black Malaga, Gros Colman and Purple Cornichon.

Muscat Grapes.

There are many good table muscats, but the most important by far are Gordo Blanco, Muscat of Alexandria, and the Red Hanepoot of South Africa.

Varieties for Drying Purposes.

Currants.—The Zante Currant, or Panariti, as it is called in California. This is the only currant grape now grown in Australia.

Sultanas.—Our sultana is the true Sultanina of Asia Minor, identical with the grape known as "Thompson's Seedless" in California (Bioletti). The Californian "sultana" is a somewhat inferior grape, which is not grown commercially in Australia.

Lexias.—The Muscatel Gordo Blanco of Malaga is the standard raisin grape, both for lexias and dessert raisins or "Clusters." Experts differ as to the identity or otherwise of the "Gordo" and Muscat of Alexandria or Roman Muscat. There appear to be several varieties which closely resemble one another.

Varieties for Export.

The Ohanez, so extensively grown in Spain (Almeria), keeps better, after severance from the vine, than any other grape. Other sorts can be shipped, notably Purple Cornichon, Black Malaga, Valensi or Belas Blanco, and Waltham Cross or Rosaki.

Valuable illustrated books, bulletins and leaflets on various phases of Vine Culture have been issued by the several State Departments of Agriculture, particulars of which are available on application.—(Reprinted from "Fruit World Annual and Trade Record for 1922."

PRODUCTIVE FERTILIZERS.

An extremely interesting and attractive handbook has been issued by the Australian Sulphate of Ammonia Propaganda Committee. This book is being widely distributed amongst fruitgrowers and farmers throughout the Commonwealth and New Zealand. Much time and thought has been put into the compilation of this publication, which was edited by a Queensland scientist. The articles deal in a comprehensive manner with the value of nitrogen as a fertilizer, method of application for field crops, fruit trees, vegetables, flowers, etc. Diagrams are also included showing the soil ingredients drawn by various crops, absorption power and fertilizers required.

The fruitgrower is particularly well catered for in this handbook, which contains 72 pages and we recommend growers to secure a copy from their local distributor or direct from the publishers, as advertised on page 153.

The Sugar Industry.

Deputation to Prime Minister.

A deputation representing the Cane-growing and Sugar Producing interests of Queensland and N.S.W. waited on the Prime Minister during March requesting a renewal of the sugar agreement at the same price for five years; alterntively that if a State pool were formed, the Federal Government should prohibit sugar importations, and that the duty should be increased to £14 per ton.

The Prime Minister in reply stated the Government fully realised the value of the sugar industry in Australia; it was essential to the White Australia policy. The Government would not renew the agreement, as the abnormal circumstances which justified same previously had disappeared, and the renewal would be in the nature of giving preferential treatment. The industry would be safeguarded through the Customs tariff. When the Government had an opportunity of fully considering the proposals put forward by the deputation, they would lay down in detail its proposals for protecting the industry.

Letter from Mr. V. R. McNab, Secretary Northern Victoria Fruitgrowers' Association.

(To the Editor "Fruit World.")

Sir,—Like a black cloud over an orchard threatening it with disaster the Government control of sugar hangs over the soft fruits industry menacing it at every turn, and checking its enterprise.

The Federal Government took over the control of sugar so as to prevent the possibility of Queensland exploiting the rest of Australia with their sugar during the war. This agreement was effected at great cost, and the public is still paying for it. This agreement enabled the sugar growers to meet the outrageous demands for payment made by the Australian Workers' Union. A new agreement would only provide another opportunity for a new demand for increased pay by the unskilled laborer. I think that the sugar growers should fight their own battle for a fair day's work for a fair day's pay, instead of asking the whole of Australia to pay it.

Mr. G. H. Pritchard, the sugar producers' secretary, makes a great song about the amount of sugar used in the canning of fruit, but just as "man cannot live by bread alone," so the soft fruits grower cannot live by the canning fruit alone, he must find a profitable outlet for the fruit, which cannot be accepted for canning but is suitable for jam. Each year now the grower suffers heavy loss from fruit rejected through overripeness or bruising in transit, which should be made into jam, but is not, owing to the high price of sugar.

The export trade in jam is practically killed; the statist figures show that it is decreasing by back somersaults.

Yours, &c.,

VICTOR R. McNAB.

"Avalon," Ardmona.

Feb. 20, 1923.

Views of Mr. L. M. Shoobridge, M.L.C., Tasmania.

(To the Editor, "The Fruit World.")

Sir,—I recently received a copy of the "Australian Sugar Journal," and my attention was drawn to an article headed, "The Latest Sugar Bogey"—in which an attack is made on "The Fruit World" for its attitude towards the Sugar Industry, and showing that owing to the special control and assistance given by the Federal Government certain disabilities had resulted to the fruit industry, and the non-sugar producing part of the Commonwealth.

According to the report of the Royal Commission appointed by the Federal Governmnt to inquire into the sugar industry, nothing has been over stated in the "Fruit World" as affecting these industries. In the copy of the "Australian Sugar Journal" I was asked particularly to note that a 30 oz. tin of canned fruit only contained 3 to 4 oz. of sugar, so that in a dozen tins of canned fruit there would only be about one shilling's worth of sugar, and the inference drawn from this was that the result of the special favours bestowed on the sugar industry by the Federal Government could in no wise injure the fruit industry. To this I reply that this did not apply to the ordinary housewife who has had to pay sixpence per pound for what was formerly obtained for threepence. The high price of sugar for jam making has been a serious item; soft fruits, such as Apricots, Plums, Prunes, etc, have been selling this season at a penny per pound. As twelve pounds of fruit costing a shilling requires three shillings and ninepence for sugar, the housewife states "**I would willingly buy fruit, but I cannot afford the sugar.**"

Although the manufacturer gets a rebate on the sugar in the jam he exports, this has not applied to home consumption, so that we find butter taking the place of jam.

The sugar grower for years has been assured of a certain price for his produce, enough to cover the cost of production, and a fair margin of profit, and this on an article that can be stored indefinitly, whereas the fruitgrower, with a highly perishable article, has been forced to take whatever was offered. This has often resulted in large quantities being allowed to rot on the ground, as it would not return the cost of picking and transport to market.

The fact remains that whereas the price of sugar has gone up about 100 per cent. to the ordinary consumer, the price of fruit has remained the same, and in many instances lower. The sugar grower has therefore been placed in an infinitely better position than the fruitgrower, and this is mainly due to the action of the Federal Government.

I have not yet seen refuted the statement as shown by the Royal Commission on the Sugar Industry that the special treatment afforded this industry has cost the rest of the Commonwealth about two million pounds a year. As a primary producer I do not begrudge the sugar grower what he gets, but in

fairness the fruitgrower should be placed in the same position.—

Yours truly,
L. M. SHOOBRIDGE.
New Town, Tas., 20/2/23.

Opinion by Mr. Aspinall, Secretary of the Metropolitan Fruitgrowers' Association (Vic.).

"Housewives purchasing less jam-fruit."

"Fruitgrowers only want a fair deal."

(To the Editor "Fruit World.")

Sir,—I write to state that the Fruit Growers of the Metropolitan area stand behind you all the way in the attitude that you have taken up in dealing with the sugar question.

As Secretary of the Metropolitan Fruitgrowers' Association the exorbitant price of sugar has been a severe handicap in my work of organizing open-air markets, for I hear the statements made repeatedly by consumers, "look at this cheap fruit, and sugar so dear."

Now Sir, anyone who has followed the situation must see that the fruit growers have been at a great disadvantage in competing in the world's market and unless something is done, and that quickly, the Government will have a large number of orchards thrown back on their hands.

The bogey that sugar growing is only a black man's job has been, I think, successfully exploded, for a visit up to the cane areas in the cutting season will prove that the white man is more than holding his own. As to processing of fruit the statement has been made that in canned fruits the amount of sugar used doesn't affect the question to a great extent; but when it comes to jams and jellies memory fails, or it suits to side step the question.

The fruitgrowers are not asking for anything that will embarrass the cane-grower; all they want is a fair deal.—Yours, &c.,

J. W. ASPINALL.
Sec. Metropolitan Fruitgrowers' Assoc.
Box Hill.

"TEA FROM TI-TREES."

Amusing Sugar Propaganda.

A writer in the "Australian Sugar Journal" for March 1923, describing the appalling ignorance of his critics, states scathingly, "They mixed up the idea that Sugar grew on sugar bushes and Tea on ti-trees."

Query, doesn't this scribe know that "ti-tree" should really be spelled "Tea-tree" for the very simple and obvious reason that tea was made from the leaves of this tree when Captain Cook's men landed in Australia? That's how the "tea-tree" got its name.

Perhaps the Australian Sugar Producers' Association could spare another £3,000 or £4,000 for some public newspaper instruction on this matter. Here are some suggested headings "Use Australian grown tea from tea-trees." "Reasons why the duty on tea should be increased." "Embargo on black grown tea imperative." "Using Chinese tea encourages the Yellow Peril."

We can imagine how members of Parliament, and others who receive "free" copies of the "Australian Sugar Journal" will be tickled by this howler.

Superintendent of Horticulture.

Victorian Cabinet Adamant.

Vigorous protests have been made against the proposal of the Victorian Cabinet to appoint an American as Superintendent of Horticulture.

The Assistant Minister of Agriculture (Mr. Pennington) announced, at the Port Melbourne branch of the Australian Natives Association where the Minister's proposal was adversely criticised, that the matter was not open for re-consideration.

Mr. Pennington stated that a number of applications for the position had been received from local people, **but the qualifications of the applicants were not considered** to be up to the standard required.

* * *

Speaking on this subject at the Ringwood Show, Mr. W. H. Everard M.L.A. states that if the archangel Gabriel had applied, he doubted if even he would have been able to fulfil the absurd requirements as advertised by the Government.

Mr. P. T. Young states he doubted the sincerity of the Ministry in regard to the matter.

Replying the Acting Premier (Mr. McPherson) said the Ministry was sincere, and tried to appoint the right man whether he lived in or out of Australia. He personally had not seen the advertisement inviting applications for the position. He presumed same had been drafted by the Department of Agriculture.

"No Australians Need Apply."

(To the Editor "Fruit World.")

Sir—With regard to the appointment of a Superintendent of Horticulture, it is officially announced that none of the Australian applicants for the position has the necessary qualifications. Under these circumstances, the Victorian Government has decided to appoint a man from the United States of America, and in the first instance it was announced that the Premier, in his tour through America, would select a Superintendent.

How Mr. Lawson, from his training or experience, would be able to select such a specialist for the position, **is not** divulged.

What special knowledge of Horticulture is professed by Mr. Elwood Mead to warrant his being consulted in this matter?

But my main object in writing now is to ask, that in common fairness, the qualifications required in the American expert to be appointed, should be exactly the same as those expected in the case of an Australian applicant.

There should be no discrimination between Australia and America in this respect, and the following should be of the essence of the contract:—

(1) That the conditions laid down in the "Victorian Government Gazette" be insisted on: That the work embrace orchard supervision, inspections, initiation and control of research experimental demonstration, and instructional work in cool storage and preservation processes; cultivation, manuring, spraying, pruning, grading, marketing, and processing of fruits for home and export requirements; lectures and general propaganda, etc., etc.

(2) That faith be kept with the orchardists of Victoria, as promised by the Premier, that the qualifications of the expert selected be submitted to representative fruitgrowers before a final choice is made.

It is to be regretted that, after all these years of so-called horticultural education in Victoria, there has been no student sufficiently advanced to be sent to America and elsewhere on a travelling scholarship, so that on his return to the Commonwealth he would be fully equipped to undertake the duties of a sensible and practical Superintendent of Horticulture.

"ORCHARDIST."

McWHAE'S LITTLE JOKE.

Agent-General for Victoria (McWhae) wants all "fruit" (he doesn't say what kind) enclosed in a wrapper giving the grower's name and address, as "no man with any sense will export fruit, if his name is on it, of an inferior quality, or it will only mean ruin to him."

The buyer, of course, is a poor, half-witted, sand-bagged kind of individual, who buys labels not "fruit." If McWhae had stopped short when he said that "no man with any sense will export inferior fruit," it would have been a platitude we well understand.

But of course any man, even an agent-general, can get cheap publicity now by "calamity howling" about Australian produce.

Australian Conference of Fruitgrowers.

The Australian Conference of Fruitgrowers meets for its annual session at Melbourne during the week from May 7 to 12 (inclusive). The Prime Minister (Mr. Bruce) has been invited to open the proceedings.

The agenda paper is now being compiled. Some of the items so far sent forward are:—National Advisory Fruit Council, The Sugar Position, The Citrus Industry, Local Markets and Exports, Advertising—To Increase Fruit Consumption, The Starling Pest, Abolition of Federal Arbitration Court, Quarantine Station for Imported Seeds and Plants, Report of Pomological Committee, Apple and Pear Export Grading Regulations, Reciprocal Trade with Canada. The president is Mr. J. H. Lang, Harcourt (Vic.), and the hon. secretary is Mr. R. E. Boardman, 9 Queen-street, Melbourne.

MR. G. W. WICKENS, Western Australian Govt. Fruit Expert, who in his report herewith highly commends one of his officers, Mr. C. Simmonds.

Remarkable Success in Controlling Fruit Fly.

Commendable Enterprise by Western Australian Growers.

United Attack Planned and Carried Out.

The Fruit Fly is a serious menace and scourge in Queensland, New South Wales, and Western Australia.

The subject is an unpleasant one, as districts where the fly is prevalent are not proud of the fact.

Entomologists are busily studying the matter, and it is hoped success will attend their earnest and skilled endeavours—but meanwhile the fly continues to spread.

Western Australian growers, in one fruitgrowing locality, tackled the position unitedly and with determination, and succeeded in getting rid of the pest.

This information is of the greatest importance to Australia, and it is hoped that the example set by the Spearwood (W.A.) growers will be followed in every centre where the fruit fly exists.

The Western Australia Minister for Agriculture (Mr. H. K. Maley) has made available the following report received for the officer in charge of fruit industries (Mr. G. Wickens):—

The results of the efforts at Spearwood (W.A.) to control the fruit fly are of great interest to fruitgrowers. The plan was first outlined by the district orchard inspector (Mr. C. Simmons), who told the growers at a meeting he was certain much better results would be obtained if *the growers combined and paid someone to apply bait* to the trees regularly once in every ten days, instead of depending upon carrying out this work themselves. A majority of growers at the meeting favoured giving the suggested innovation a trial; the Minister for Agriculture agreed to assist by lending a spray pump, donating £15 towards the provision of fruit fly bait, and instructing that Mr. Simmons should personally supervise the work.

"*Fifty-seven orchardists* came into the scheme, the portion of the district covered being approximately one mile and a half by three miles. A man was engaged, who provided a horse, cart, and labour for 25/- per day.

"Baiting commenced on October 21, 1922, before the ripening of the first stone fruits, and has been continued once in every ten days until February 10, the trees of each variety being treated as the fruit ripened sufficiently to render it liable to attack by fruit fly.

"The trees were baited in the usual way—that is, they were not covered with the material, as is customary when treating most insect pests, but a small quantity only was sprayed on the leaves on two sides of each tree, missing the fruit as much as possible. This is why I refer to the operation as baiting instead of using the usual word 'spraying.' The bait used is known as 'Newman's fruit fly bait,' and is put up in tins ready for use, 10 gallons of water being added to one gallon of prepared bait.

"The conditions obtaining this season are ideal from the fruit fly's point of view. There is an exceptionally heavy stone fruit crop, and, prices being low, growers (I am not now specially referring to Spearwood) are not so careful in picking up fallen fruits, nor are the trees so carefully cleared of all ripe fruits, as when fruit is scarce and prices high.

"Consequently, there is, unfortunately, in many orchards in districts within 50 miles of Perth, where the infection is worst, abundant material in which the pest can, and does, propagate and spread. I am mentioning this specially because it makes the results obtained at Spearwood all the more noteworthy, where *out of the 57 orchards treated, there were only two in which infected fruit was found this season, and the loss in these was limited to about four cases in one instance, and half a dozen fruits in the other.*

"The Spearwood growers set out to prove two things—firstly whether fruit fly could be kept under control by systematically baiting the trees; and, secondly, whether the cost, when combining and paying a man to do the work, was less than with each man attending to the application of bait in his own orchard.

"So far as the former is concerned, it has been proved to be a fact in this State a number of times both by the entomologist of this department (Mr. Newman), and also by individual growers, but, where the Spearwood effort differed from previous ones was *the co-operation of growers to keep a whole district free.*

"SO SUCCESSFUL HAVE THE OPERATIONS BEEN THAT GROWERS IN THE AREA TREATED, WITH THE TWO SLIGHT EXCEPTIONS MENTIONED ABOVE, HAVE GATHERED THE WHOLE OF THEIR STONE FRUIT FREE FROM FRUIT FLY, COMMENCING WITH EARLY NEWCASTLE APRICOTS IN NOVEMBER, AND FINISHING WITH ELBERTA PEACHES ON FEBRUARY 10. THE COST HAS WORKED OUT VERY LOW, BEING LESS THAN 3d. PER TREATED TREE FOR THE SEASON, INCLUDING LABOUR AND MATERIAL.

"It is particularly worthy of mention that, while the orchards in the co-operatively treated area are free from fruit fly, there are some very close to its boundaries where fruit fly is plainly in evidence, and this notwithstanding that the owners of the latter are supposed to be applying bait exactly in the same way as is being done for the combined growers by the man who is paid to do the work.

"The Spearwood growers are to be congratulated upon the result of their efforts, as is also Mr. Simmons, the officer of this department, who initiated and practically organised the movement."

EXPORT OF FRUIT.

Mr. Geo. W. Wickens, officer in charge, fruit industry, Western Australia, advises, under date of March 15:—Up to the present, space sufficient to ship 255,200 cases has been applied for and allotted to Western Australian growers. Of these, 243,900 are apples, and the remainder comprise grapes and pears.

Approximately 95,000 cases were shipped to March 10.

No definite allotments have yet been made for citrus fruits, but, as the crop is medium to good, I anticipate that the quantity exported to England will be about the same as last year, which amounted to 12,127 cases.

Apples are being loaded at three ports this year, viz., Fremantle, Albany and Bunbury.

KENDENUP FINANCES.

It is announced, with regret, that the De Garis Kendenup (W.A.) Development Co. Ltd. is to go into liquidation. Mr. De Garis recently visited U.S.A., and there contracted for the introduction of the necessary finance to put the company firmly on its feet. The promised remittances, however, have not come to hand, and the company is to go into liquidation. Mr. De Garis, it is reported, has decided to continue in residence at Kendenup. He states the company will pay 20/- in the £.

QUEENSLAND

Cultural and District Notes

By our special correspondent

THOUGH WEATHER CONDITIONS generally have been more favorable for plant growth and fruit development, the effects of the prolonged dry spell and excessive heat are reflected in early orange crops.

In the **Howard** district, from whence the principal early supplies are raised to the southern States, the effect is very pronounced, particularly where cultivation has been neglected in anticipation of summer floods. Some experimental work (conducted by the Agricultural Department) applied to old orange trees badly affected by collar rot, gumosis and allied maladies, in this district has satisfactorily demonstrated the efficiency of the treatment.

Custard apples are now being placed on the market at satisfactory prices. Redland Bay (volcanic and heavy alluvial soils) is credited with being the most suitable district for the production of this esteemed fruit. Large areas of trees of various sizes are included, and being annually added to.

Some exceptionally fine specimens, both trees and fruit, are present, particularly in the orchard of Mr. J. Collins, to whom the credit for the high standard of quality and productiveness attained is mainly due.

The summer crop of **pineapples** has been disposed of, at varying rates, averaging an advance upon previous seasons, when the pool was in operation.

In the southern district the cultivation of pines is becoming somewhat precarious in several of the principal districts. The decay of roots, and subsequent wilting and death of plants, from no apparent reason, in land which for many years previously produced healthy plants, is becoming rather prevalent.

Several theories have been advanced as to the origin of the trouble. Soil acidity, mealy bug, damage to roots, nematodes and indifferent soil preparation are cited, and the action of fungi has also been suggested, but measures calculated to be remedial have, though temporarily beneficial, not afforded general relief.

Several new varieties have been raised in Queensland, and amongst these it is claimed that the "McGregor," raised by Mr. Smallman, of Cleveland, is more resistant than the imported kinds. It has been proved to be much less liable to the trouble known as "black heart," which is found in quantity in some southern localities.

Pineapples can be induced to seed freely in the far north, but where sugar is king, no attention is bestowed upon other lines, and tropical fruits are now barely included.

Attention is, however, being applied in the south, the State having recently entered upon the establishment of a nursery at Bribil Island, originally initiated for the production and distribution of "clean" banana suckers, which are expected to be available next season (meanwhile disease, in the form of beetle borer, has been disseminated throughout banana areas).

It is reported that tropical fruits generally will be propagated. **Pecan nuts** and **Avocado pears** having been introduced from U.S.A. for propagating purposes.

The propagation of Leechie, mango, etc., is also mentioned as being contemplated.

Logically, extensive propagation of purely tropical fruits in a semi-tropical or tropical climate does not commend itself from any aspect, including financial.

A recommendation was made by the northern instructor a few years since, for the establishment of a tropical fruit nursery in connection with the island aboriginal settlement (general labor being performed by the abos., who are maintained by the Government), in a purely tropical situation, where every feature essential to successful propagation and rapid development are bountifully supplied by nature. Yet this was turned down by the authorities now responsible for the attempted establishment on an absolute sandbank. That it should meet with the butt of practical nurserymen and ridicule of horticulturists could only be expected.

The planting out of tropical fruits, particularly **bananas and pineapples**, should have been completed by the end of March. Unseasonable conditions were responsible for prolonged delays, but, as little or no growth is made during the colder months, postponement until the following spring is, except in most favorable situations, preferable.

The development of **banana suckers** (even when attached to the parent stool) from April to September is negligible.

There is some diversity of opinion regarding the planting of banana butts or suckers, the latter finding most favor with the beginner, and an old hand seldom varies his methods, even to the extent of a small trial.

Where rainfall is consistent, the sucker is reliable, but, under uncertain conditions, the butt is infinitely preferable, inasmuch as it retains its vitality and provides sustenance for the young growth during a dry spell, such as frequently prevails in early spring.

De-suckering, or thinning, of banana stools should now be completed. A little observation will determine the time necessary, under normal conditions, for the development of the plant, and including production and maturing of fruit.

Generally, suckers which have just emerged from the "sword leaf" stage at the end of March will mature their fruit in the following winter, and, according to the increased stage of development, the fruiting term will be lessened, also the quantity and quality of fruit will be reduced by the succession of "followers" being such as to allow free development before winter ,and consequent early summer or spring flowering.

Amongst citrus, nursery stock budding is successfully performed about the end of the month, the buds being allowed to remain dormant throughout the winter. The scions or budwood are removed from the parent tree (whilst in dormant condition) and embedded in damp sand until stocks are in most suitable stage. The buds from woods so treated are plumper than when taken for use direct from the tree, and fewer failures are recorded.

QUEENSLAND FRUIT TRADE.

Delegates Attend Southern Markets.

With the object of extending the sale of Queensland fruits (particularly pines and bananas) Messrs. F. Burtt, chairman of the Southern Queensland Fruit Society, and L. A. McGregor, director of Queensland Agricultural Council, visited Sydney and Melbourne during March. The scope of the enquiry includes packing sheds, cool stores and marketing methods generally. The new development of open-air markets in Melbourne suburbs will engage interested attention.

NITRATE OF SODA FOR CITRUS TREES.

Referring again to the manurial experiments on oranges carried out by Mr. C. R. Roper, Harkstead, Kyabram, Victoria, the following carefully recorded results are of interest:—

Plot 1—Super., 8lb. per tree. Yield per acre, 200 cases; value, £90.

Plot 2—No manure, check plot. Yield per acre, 156 cases; value, £70 4/-.

Plot 3—Super., 8lb. per tree; nitrate of soda, 5lb. per tree. Yield per acre, 300 cases; value, £135.

The trees on Plot 3 stand out in every way; the fruit was more uniform in size and hung better. The increase in yield shown from the plot treated with nitrate of soda was of sterling value, to the amount of £45 per acre, when compared with the plot receiving super. alone.

Appreciation.

A subscriber at Coromandel Valley, South Australia, writes:—"I would like to express my appreciation of 'The Fruit World.' It is of great value to the orchardist. Keep hammering on the sugar question."

Victoria.

Association Meetings.

Fruit Shows.

Diamond Creek.

Thirty-ninth annual show opened by Mr. W. H. Everard, M.L.A., on March 10. Nice display of fruit, vegetables and flowers. Exhibits of good quality, though not so numerous as the previous occasions, owing in no small measure to the excessively dry season. At the show luncheon addresses were given by Messrs. Lister, M.H.R.; W. Angliss, M.L.C.; and W. H. Everard, M.L.A. urging closer organisation amongst the rising generation of fruitgrowers. Mr. G. J. Middleton won the championship prize for the best nine varieties of apples and six pears; followed by Messrs. W. G. Whicker (2) and R. H. Lawrey (3). In the section for packed cases of apples for export, Mr. Bruce Heddle secured first prize. Mr. E. D. Wadeson won the championship prize for nine varieties of pears, three culinary and six dessert. Although the dry weather reduced the entries in the flower section, the entries provided a pleasing display.

The President, Committee, Secretary, exhibitors and all who contributed to the success of the show are deserving of congratulation on the success of their efforts.

Somerville.

Twenty-ninth annual show, opened by the Prime Minister (Mr. Bruce). A splendid collection of fruit and vegetables, undoubtedly the best fruit show in Victoria this year. The Mornington Peninsula is the home of the Jonathan Apple, as well as other varieties, also Pears. In competing for the section 12 varieties of Apples the Two Bays Nurseries and Orchards Co. (97½ points) won by half a point from Mr. J. D. Grant: the points were (97 points). A referee had to be called in to make the final decision. Messrs. J. D. Grant and G. A. Grant scored freely in other sections.

The returned soldiers of the district exhibited a striking display of Apples, a map of Australia being picked out in red Jonathan Apples, surrounded by a "sea" of green Apples. Six cases well graded and packed Apples were exhibited by the Peninsula Co-operative Packing Shed.

The judges in the fruit section were Messrs. F. W. Vear, J. Jordan, H. Coleman, A. B. Herbert, J. W. Lawrey, J. W. Bailey, and E. Lawford.

The Prime Minister urged growers to cheerfully shoulder the responsibility of running the show each year, instead of leaving the work to a few. Touching on the sugar question Mr. Bruce said the fruit and sugar industries were interlocked; sugar at a reasonable price was necessary for the fruit industry. The fruit industry in Australia had been saved by the price and supply of sugar. The Government would hold the scales of justice fairly.

Ringwood.

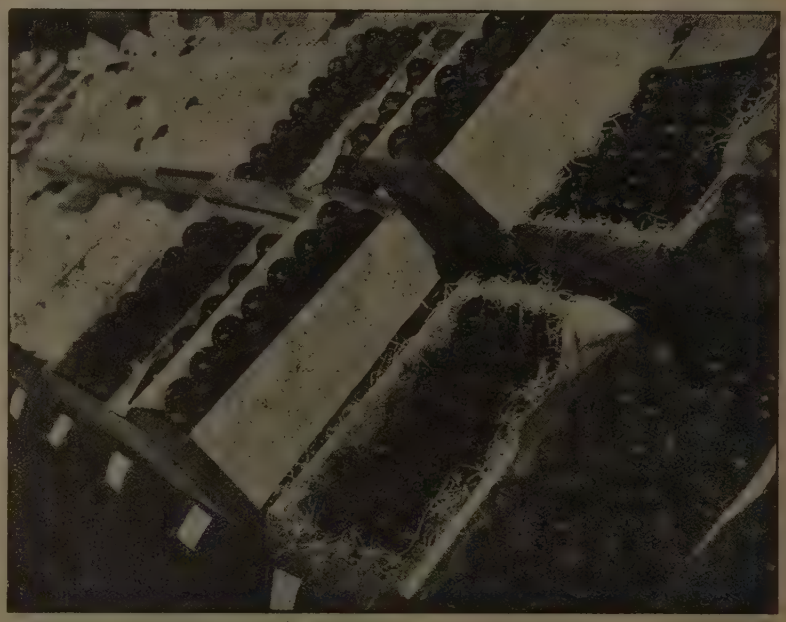
The Acting-Premier of Victoria (Mr. McPherson) opened the Ringwood Show on March 16th. He commended the open-air system and urged that the scheme be better advertised; the 2,000 growers in the metropolitan area should be better organised—if each paid 10/- a year their funds would be ample. It was not the duty of the Government to find markets, but they would be willing to assist. The Government was quite sincere in its endeavour to appoint a suitable Superintendent of Horticulture.

Mr. W. H. Everard, M.L.A., affirmed that it was the duty of the Government to find markets. He criticised the Government for shelving the matter of the appointment of a Horticultural Superintendent.

The fruit, while of excellent quality, was much less in quantity as compared with last year; there were over 1,000 less entries. The principal prize winners in the fruit section were Messrs. Tomkins, W. Hubbard, W. Payne, G. E. Mock, T. N. Cuttle, J. Tainton, H. Pump, R. A. Leach. There were other interesting sections—poultry, flowers, bottled fruit, needlework, women's work, children's work.

In the ground there were exhibits of Bave-u-Motor Pumps and Engines, Ellis Grader, etc.

The show was a two-day event, and was well attended. The President (Mr. Porter) and the Secretary (Mr. R. F. Miles) and committee worked hard, but it was evident that, apart from the effects of the dry season, the local growers will need to give greater support in the future if Ringwood is to take front rank in regard to fruit shows.



Champion Display of Apples at the Somerville (Vic.) Show.

OPEN AIR MARKETS IN VICTORIA.

We have received from Mr. J. W. Aspinall, Secretary the Metropolitan and Districts Fruitgrowers' Association, a list of the present Open Air Markets, and the days on which the fruit is sold:

Collingwood. — Town Hall, Friday morning; Gold and Mater streets, Wednesday morning.

East Melbourne.—Powlett street, adjoining the reserve, Friday morning.

Glen Huntly.—Adjoining railway station, Saturday morning.

Hawthorn—Opposite Town Hall, Friday afternoon.

Kew East.—Corner High and Strathalbyn streets, Saturday morning, 7 a.m.

Oakleigh.—Adjoining Sale Yards, Saturday morning.

Richmond.—Church street, north and south, Saturday morning.

A market will be opened in Northcote shortly.

There should be 100 of these markets instead of 10 as at present.

On our front cover will be noted a typical scene at an open air market.

The Pomological Committee of Australia will hold its annual meeting in Melbourne on May 3, 4 and 5.

BOMBSHELL FROM RAILWAY DEPARTMENT.

Abolition of 10 ton truck.

Mr. C. Miscamble, Railways Commissioner, Victoria, announced on March 20th. to a deputation from the Country Railway Users League, that 10 ton trucks were going out of use and in a few years there would be none left. If producers could not fill a 14 ton truck the 14 ton capacity would have to be paid for. Producers should co-operate among themselves to fill the larger trucks.

VICTORIAN FRUITGROWERS' CENTRAL ASSOCIATION.

The monthly meeting of the above Association was held on March 21st, the president (Col. W. E. James) was in the chair. There were also present:—Messrs. J. W. Bailey, W. J. Foster, C. W. Grant, J. G. Aird, J. Tully, H. Henderson, and the secretary and treasurer. Apologies were received from Messrs. Lang and Jones.

Fruit Exhibits at Royal Show.—A vote of thanks was carried to the Cool Stores Association, for donating a shield for competition by districts at the next Royal Show. Mr. Aird said that districts should take more interest in fruit displays. The Royal Society provided the pyramids which were 4 ft. high, and took 6 cases of fruit to fill. Eight varieties of Apples and four of Pears had to be staged. Points were given as follows:—18 for fruit and 20 for display. It was decided to urge districts association to arrange exhibits.

Experiments in Oversea Fruit Carriage.—A letter was received from the Agricultural Department, stating that Dr. Ezer Griffiths, his brother, Dr. Smith, and Dr. Benson were leaving on the "Ormonde," "Somerset," and "Themistocles" respectively to conduct scientific experiments in fruit carriage and watch developments. A full report would be presented when they arrived in London.

Prune Growers' Association.—It was reported that Mr. McNab was arranging for the formation of a Prune Growers' Association. Mr. Foster stated he was endeavouring to form a Fig Growers' Association. Fig growing should develop rapidly in Australia in the next few years. A number of new varieties were being introduced from America, where large quantities of Figs were grown annually.

Resignation of W. C. E. Jones.—Mr. Jones wrote tendering his resignation from the position of vice-president. It was decided to ask him to hold same over until the annual convention in May.

Railway Matters.—Associations are requested to forward items for agenda paper. Mr. Foster referred to the rate of freight on truck loads of fruit consigned in cases without lids to factories. Northern growers were being charged at the rate of 40 cases to the ton. On one consignment there was a difference of 2 tons 9 cwt. It was decided to bring this matter before Mr. Miscamble at the next annual convention.

Sugar Question.—Mr. Foster reported that he had a conference with Mr. W. H. Doherty, secretary of the Queensland Sugar Growers' Association, and had made certain proposals to him in regard to sugar for the jam and canning trade. If these were accepted by the sugar growers he was hopeful that fruitgrowers and sugar growers would be able to get closer together and work in harmony to the advantage of both industries.

Orchard Tax.—Mr. Bailey reported that the Acting-Premier had stated recently that he was not aware that growers' conferences had favoured an orchard tax. It was decided to place the whole proposal together with resolutions carried before Mr. McPherson, also to bring the matter under his notice at the annual convention, to be held on May 1-3, when it is hoped he will be present.

The next meeting of the Executive will be held on **April 11th**, at 1.30 p.m.

The Victorian Fruitgrowers' Central Association will hold its annual convention at Frankston, from May 1 to 3. The chair will be taken by the president (Lieut.-Col. W. E. James, D.S.O.).

Many important items are set down for discussion. After the conference the Peninsula fruitgrowing districts will be visited.

(Report of the Fruitgrowers' Cool Stores Association will be found on page 158.)

A nice display of Fruit at the Ringwood Show.

Cross Fertilization of Fruit Blossoms.

Points to be Remembered when Planting a New Orchard.

(By H. N. Wicks, Balhannah, South Australia).

It is now a well-established fact that the cropping qualities of certain varieties of fruit trees are greatly improved by cross pollenization, and consequently it has become a matter of great importance to orchardists to plant varieties that bloom at the same time in close proximity to one another, writes Mr. H. N. Wicks, fruitgrower and nurseryman, of Balhannah, South Australia.

Not only do better crops prevail amongst orchards which are subjected to this treatment, but the number of windfalls is reduced to a minimum, as properly fertilized fruits do not fall to anything like the extent that do partially fertile ones.

The benefits of cross pollenization are especially noticeable in Apples, Pears and European Plums, and I have consequently compiled the following lists of varieties showing those which are in full bloom sufficiently close to each other to be of value to one another for fertilizing purposes:—

Apples.

No. 1.

Gravenstein
Jonathan
King David
Dunn's
Kokewood
Tasma (Democrat)
Statesman

No. 2.

Buncombe
Cleopatra
Dumelows
Esopus
Granny Smith
Reinnette de Canada
William's Favorite

No. 3.

Glengyle Red
London Pippin
Rome Beauty

The date of full blooming of the majority of varieties in list No. 2 of Apples is only a few days after those enumerated in list No. 1, therefore most of the varieties in these two lists have a coincident flowering period sufficient for fertilization purposes.

Pears.

No. 1.

Brockworth Park
Harrington's Victoria
Howell
Kieffer
Packham

No. 2.

Beurre Diel
Glou Morceau
Gansell's Bergamot
Josephine de Malines
Uvedale's St. Germain
William's
Winter Nelis

Plums.

The following lists of Plums are collected from information kindly supplied by Mr. C. G. Savage, when Government Orchardist, at Blackwood, and are taken from the very exact records kept by him at the orchard.

No. 1.

Angelina Burdett, Fellemberg.

No. 2.

Diamond, Early New Orleans, Jefferson, President.

No. 3.

Giant, Grand Duke, Jefferson, President, Prune D'Agen, Robe D'Sargeant, Reine Claude Bavay, Sugar Prune, Splendour.

No. 4.

Green Gage, Pond's Seedling, Prince Engelbert, Washington.

No. 5.

Early Rivers, Egg Plum, Kirk, Monfries' Golden Drop, Pacific Prune.

Almonds.

No. 1.

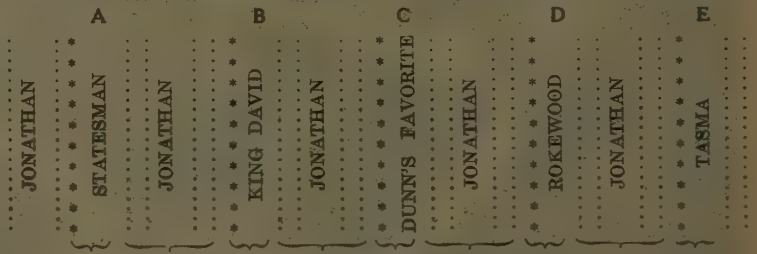
Branders, White Nonpariel, Peerless.

No. 2.

Californian Paper Shell, Commercial, Golden State, Imperial, IXL, Ne Plus Ultra, Strouts, True Jordan.

Although fairly good results have been obtained by grafting one limb on to each tree needing pollenization, and this method is often resorted to in orchards that are of bearing age, with good results, it has nothing to recommend it in setting out a young orchard.

Alternate rows of varieties of the same flowering period have been proved to be the most efficient in the matter of pollenization, but every fifth row will give good results. To ensure consistent fruiting, it is not advisable to pollenize a block of one variety with only one pollenizing variety, but, if possible, use several, as any one variety may fail to bloom, when in such case, the whole block may suffer, whereas it would be very unusual for three or four varieties to all fail at once. The following diagram may be of assistance in illustrating the matter:—



Rows A, B, C, D, and E, are pollenizers.

In the above sketch I have taken Jonathan as the variety to be pollenized, as this line has been proved to be vastly benefited by interplanting; in fact, it would be folly to plant this line in blocks without fertilizers here in South Australia.

PEACHES FOR CANNING.

Planting for Continuous Crops.

Mr. C. Braithwaite, officer in charge, Government Nursery, Leeton, N.S.W., advises that, of the many peaches tried on the Murrumbidgee Irrigation Areas, the following have been selected as the most suitable for the areas, viz.:—

Improved Tuscan Cling, ripens about 18th January.

Levis' Cling, ripens about 18th January.

Selma Cling, ripens about 31st January.

Sims' Cling, ripens about 15th February.

Phillips' Cling, ripens about 28th February.

Goodman's Choice, ripens about 2nd March.

Golden Queen, ripens about 9th March.

Pullar's Cling and types, ripen 18th March to 10th April.

ADVERTISING LEVY ON APPLES.

The Trade Commissioner for South Australia (Mr. R. M. K. Lewis), in London, writing on the 8th February last, gives the following details of a meeting of the Australasian Fruit Importers, held in London to discuss the question of advertising Australian fruit in the United Kingdom, at which Messrs. C. E. D. Meares and F. A. McDougall, members of the Commonwealth delegation, were present. After the Chairman explained the object of the meeting, the arrangements for the collection of a levy for advertising of Australian fruit last year were discussed, which provided that all agents handling Australian fruit in London were to make a deduction from the account sales to cover the expenses of an advertising campaign. It was found that all the firms interested had paid their quota of the amount expended, but it is doubtful whether they all made the deductions from the account sales for fruit sold by them.

South Australian shippers of Apples did not contribute to this advertising campaign last year, and the question of subscribing this season will be discussed at the States Fruit Advisory Council meeting to be held shortly.

Apple and Pear Grading Regulations

More Patchwork

"Revised" Regulations Drafted, Including Color Requirements.

At a recent meeting of the Victorian State Fruit Advisory Board, it was decided that the following resolutions, agreed to by the sub-committee appointed to consider the grading regulations, be forwarded to the Australian Fruit Council, with a recommendation that they be adopted::—

"That, as the draft regulations drawn up by the committee appointed from the meeting of the National Council, held at Anzac House on November 9, could not be effectively carried out without **inclusion of color requirements in both the suggested 'special' and 'standard' grades,** such draft regulations be amended to provide that the 'special' grade must consist of 75 per cent. of good-colored specimens for the variety, and 'standard' grade should consist of 50 per cent. well-colored specimens for the variety."

"That the proposed 'standard' grade be altered to permit of only 10 per cent. of blemished fruit, and that blemishes caused by disease should not exceed 5 per cent."

"That the proposed 'plain' grade be eliminated."

A report re fresh fruit distribution was received.

There were present:—Messrs. J. W. Pennington, M.L.A. (Assistant Minister for Agriculuture), C. F. Cole (Department of Agriculture), C. Miscamble (Railway Commissioner), Sir John Taverner (fruit exporter), Mr. J. Oldham (Coastal Farmers' Co-operative, fruit agents), W. J. Foster and V. R. McNab (fruitgrowers).

On a matter of such importance, affecting the whole of Australia, it will be of interest to note the names of the men comprising the sub-committee which drafted the above report. They were:—Sir John Taverner, Mr. J. Oldham, Mr. J. G. Aird and Mr. E. E. Meeking (Department of Agriculture).

If the State Fruit Advisory Board were just a pretty name, and contented itself with passing resolutions expressing platitudes, no great harm would be done, but when this committee tackles a subject seriously affecting the Australian fruit industry it is possible of doing much injury. It is like giving a loaded gun to a child.

The State Fruit Advisory Board stood self-condemned before it functioned, for the simple reason that it is undemocratic, being non-elective. Some of the appointments were made at the whim of an inexpert Minister, who is unwilling to admit he has made a blunder. He has been badly advised. It is regrettable to write thus, but the fact must be faced.

On the sub-committee which met to decide the grading regulations "recommended for adoption by the Australian Fruit Council" there were two viz., Sir John Taverner and Mr. J. Oldham, who were placed there by a passing whim of the Assistant Minister for Agriculture.

It was agreed that the State Fruit Advisory Board should include one representative of the exporters. The Victorian exporters met, and appointed their nominee (Mr. J. B. Mills). The Chamber of Commerce, which is certainly not a fruit-exporting body, nominated Sir John Taverner. The latter was appointed. The Minister might as readily have appointed a nominee of the Master Undertakers' Association.

As regards Mr. Oldham's appointment, the position is equally high-handed. Two growers were appointed by the Central Fruitgrowers' Association to represent the "fresh fruit" section, namely, Messrs. J. W. Bailey and J. G. Aird. Mr. Bailey's name was coolly struck off and Mr. Oldham's inserted, because he was supposed to represent a section created by the Minister himself, viz., "co-operative distributors."

This leaves one representative of the growers present at a meeting whereat decisions of far-reaching importance were made. It is a screaming farce.

The day has long since gone past when autocratic actions such as these would be tolerated.

Color grading has been deliberately deleted from State and Federal fruit-grading regulations, same having proved by practical experience to be unworkable. Grading regulations were drafted by experienced men from all the States at the recent National Conference of Fruitgrowers, and should be adopted by the authorities.

Doubtless the revised grading regulations will solemnly go forward to the Australian Fruit Advisory Council when that august assembly meets. Meanwhile any possibility for good which these State and "national" councils might have are nullified by the absurdities above recorded.

To Find the Area of a Circle, Say, 10 Feet Across.

Multiply 10 x 10, and take three-quarters of the result. This will be 75. Then divide 75 by 20, this gives you 3¾. Add 3¾ to 75, this equals the area of circle, or 78¾ square feet.

PERSONAL.

Mr. J. F. Kruger, a director of Messrs. White and Son, fruit brokers, Hull, England, left Melbourne per S.S. Nestor, on March 17, for South Africa, in which country he will stay for a short period before returning to England. Mr. Kruger visited New Zealand, New South Wales, Victoria, Tasmania, South Australia and Western Australia, and completed arrangements for fruit shipments to Hull. Messrs. White and Son have handled cargoes of Australasian apples and citrus at Hull to the advantage of shippers. Before leaving, Mr. Kruger expressed surprise that an impression was held by some that 5000 cases per steamer would glut the Hull market. "The fact is," continued Mr. Kruger, "that we frequently sell from 20,000 to 30,000 boxes of oranges (Californian size) at one sale. All the fruit is sold by auction. Buyers attend from the Midlands and North of England, and from Scotland, Ireland and the Continent. As regards prices, we frequently obtain shillings above the London parity. Australasian shippers would do well to definitely set apart portion of their English consignments for Hull."

There are two kinds of people on earth to-day;
Just two kinds of people, no more, I say.
Not the good and the bad, for 'tis well understood
The good are half bad and the bad are half good.
Not the happy and sad, for the swift-flying years
Bring each man his laughter and each man his tears.
Not the rich and the poor, for to count a man's wealth
You must first know the state of his conscience and health.
Not the humble and proud, for in life's busy span
Who puts on vain airs is not counted a man.
No! the two kinds of people on earth I mean
Are the people who "lift" and the people who "lean."
Wherever you go you will find the world's masses
Are ever divided in just these two classes.
And strangely enough you will find, too, I ween,
There is only one lifter to twenty who lean.
In which class are you? Are you easing the load
Of overtaxed lifters who toil down the road?
Or are you a leaner who lets others bear
Your portion of worry and labour and care?

—"British Weekly."

Tank Mending.

Half resin and half fat melted and applied hot to piece of calico will stop a leak in cold-water tank.

"Conditioning" Citrus Fruits.

Pick early, and Accelerate the Color by Artificial Heat.

A Commercial Success in U.S.A.

The fact is becoming accepted that some citrus fruits reach their highest edible quality before their color changes from a chlorodophyll green to the orange or yellow shades, which the consumer and the public generally have come to associate with a citrus fruit in good edible condition, writes the Chief of the Bureau of Plant Industry, Washington D.C., U.S.A. in a Bulletin issued on March 12th, 1922.

If such fruit is allowed to remain on the tree until the desired color appears, it may lose in edible quality and it may lose the advantage of an earlier market.

This is true, particularly of Satsuma oranges, and one or more early ripening varieties of oranges grown in Florida.

Considerable attention has therefore been given to the working out of practical methods of

accelerating the development

of a ripe colour in such citrus fruits.

While this work has been in progress for several years, its commercial application has been given particular attention during the past year.

The *methods of procedure* is to confine the fruit in a compartment which can be made practically air tight, and to subject it to the products of incomplete combustion of kerosene or gasoline.

The effect of these products on the colour of the fruit is to change the green shades to the orange or yellow shades, which would develop normally at a much later period. This change of colour is brought about in three to five days.

The work with Satsuma oranges has been carried on in co-operation with the Gulf Coast Horticultural Society and the Gulf Coast Citrus Exchange. This method of treating the Satsuma oranges has been adopted on a somewhat extensive scale.

Nine packing houses in Alabama have been equipped with conditioning rooms, and about two-thirds of the crop of 1921 was treated in this way. This has enabled the growers to complete the marketing of their crop about

four weeks earlier

than would have been the case otherwise. This is of importance commercially because, if left to colour naturally, some of the fruit would have been over ripe and insipid in flovour.

The best marketing condition for this type of orange prevail earlier in the season than can be taken advantage of when the fruit is allowed to colour on the tree and by this accelerated colouring the full advantage of the best marketing periods can be realized.

Better Prices.

The condition of *oranges* in Florida, also of one variety of *grape fruit*, was begun in a small way last season, but during the winter of 1921-22 work all along this line was actually inaugurated in that State, and the process was rapidly adopted by a considerable number of the Florida citrus growers.

The Parson Brown orange and the Davis grapefruit, were varieties to which the process was principally applied, although Tangerines and Valencia oranges were also treated.

In all, about 300 cars of citrus fruit thus treated were shipped from California during the winter of 1921-22. This fruit brought about

one dollar a box

more than fruit from the same groves which was of greenish colour. Tangerines, which after conditioning were put on the market for the thanksgiving holiday trade, sold as high as nine dollars a half strap.

About 10,000 boxes of Valencia oranges which were conditioned, brought from one to two dollars more per box than the same grade of fruit which was shipped as it came from the tree.

About 100 conditioning rooms have been erected in Florida.

The work now seems to be in a sound commercial basis in Florida and in Alabama.

N.S.W. CITRUS GROWERS.

Central Association Formed.

Recognising that the fruitgrowing industry is handicapped owing to the lack of efficient organisation, and as the citrus section is the most important in that industry, several conferences have been held recently between representatives of the established and contemplated citrus packing shed companies, the Fruitgrowers' Association of N.S.W. and the N.S.W. State Fruit Advisory Board, as a result of which a meeting of citrus growers was held in Sydney this week and it was decided to form a Central Citrus Association.

Those present included Messrs. J. Heane (Chairman of the N.S.W. State Fruit Advisory Board); H. E. Peck, Kurrajong; A. M. Henderson, T. C. Morrison (representing the Gosford Co-operative Packing Shed); H. R. Hallard, F. L. Young (representing the Central Mangrove Packing House Ltd.); C. G. Brandis, T. R. Coulson (Terrigal); W. D. Wrench, F. Fuggle (Kenthurst); W. F. Arnold, E. Fitzhardinge (Kurrajong); G. H. Parker, E. L. Archer (Dural); H. G. Such (Griffith Producers' Co-operative Co. Ltd.); P. E. Wiltshire (Murrumbidgee Irrigation Area Co-op. Co. Ltd.); J. Neil, —. Hitchcock, F. A. Nicolson (Glenorie).

The meeting discussed at some length the form which the association should take and the details of its constitution, and it was decided that a non-profit co-operative company, registered under the Companies Act, be formed immediately.

Recognising that the first step towards successful marketing lies in successful packing and in order to encourage the formation of co-operative packing sheds in all citrus growing districts the company is to be comprised of an affiliation of citrus packing companies, but provision is being made for inclusion of large growers.

The conference was exceedingly successful and without exception all the companies established for the packing of citrus fruit have joined up, resulting in the association having at its disposal an

estimate of 250,000 cases of citrus for the coming season.

A company is being registered under the "Companies Act," capital £3,000 in £1 shares; the minimum number to each shareholder is 10 shares. The secretary is Mr. E. E. Herrod, Daking House, Rawson Place, Sydney.

New South Wales will now be in a position to co-operate with the Victorian and South Australian Citrus Associations, for the general benefit of the industry.

The organisation is based on Californian principles, which have proved so economical and beneficial to the industry and the general public in the U.S.A. It is interesting to note that the South African growers are being organised on the same lines.

AUSTRALIAN ORANGES IN ENGLAND.

South Africa Admits Superiority.

South Africa is the principal competition of Australia in Citrus fruits in England. As an antidote of the recent croakings of the Victorian Agent-General we publish the following review of the trade in London, written by Mr. Graham, South African Trade Commissioner in a report to his Government.

"The arrival in fairly large quantities of Australian oranges has not unnaturally created a standard of comparison, and it is not pleasent to be told on almost every hand that South African oranges are inferior in quality. in appearance, and even in packing, to those from the sister Dominion. But I am afraid that we must admit that fact. **Higher prices are undoubtedly being obtained for Australian fruit.** Our shippers enjoy substantial advantages both as regards rates of freight and longer experience of the trade, and it should not be difficult to place on the market fruit from the Union which will be equal to, if not excel, anything that may be brought into competition with it. It means constant supervision, as well as the elimination of everything calculated to lower our reputation. The success of a pack in the main is made in the packing-house."

The Victorian Central Citrus Association advises having received cable advices stating that insurance claims on last season's exports have been adjusted; it is hoped that the amounts recovered will be sufficient to return each grower a credit balance, even on the three shipments which showed heavy loss. On receipt of the insurance recovery from London all account sales will be completed and forwarded to districts.

The bronze medal won by the V.C.C.A. at the "Daily Mail" Fruit Show at Crystal Palace, London, has been received, and is on view at Collins House, Collins-st., Melbourne.

The "Fruit World Annual" now being prepared is of exceptional interest and value.

THEY SAY.

That the apple crop in South Australia is the lightest on record. Cleopatras, however, show a larger crop than originally estimated.

* * *

That an American visitor, witnessing the rough handling of fruit at the Australian loading port, was with difficulty restrained from interfering; he declares that if similar rough handling were attempted in U.S.A. the offenders would be lynched.

* * *

That the Prime Minister, touching on the Sugar question at the Somerville, (Vic.) fruit show, failed to convince the growers that they had not suffered under government control of sugar.

* * *

That fruit-fly can be controlled and eliminated by united action. See report of the wonderful success at Spearwood, (W.A.)

* * *

That fruitgrowers in Victoria do not approve of the abolition of the 10 ton truck on the Railways, and the compulsory use of the 14 ton truck in place thereof.

* * *

That Stanthorpe (Q'ld.) soils are plentifully endowed with potash.

* * *

The Murray Valley soils are generally deficient in humus and are benefited by green manuring.

* * *

That a Planting Committee has been formed on the Murrumbidgee (N.S.W.) Irrigation Areas, to prevent, if possible, indiscriminate plantings. This should be a State matter—and other States should follow suit.

* * *

That the proposed grading regulations for apple and pear export are being tinkered with by the discredited Victorian State Fruit Advisory Board. It is sought to reinstate "color grading."

* * *

That many excellent fruit shows were held last month in fruitgrowing centres throughout Australia.

* * *

That there were excellent displays of fruit and general agricultural produce shown in Melbourne shop windows during March—"Country Promotion Week."

* * *

That members of the general public greatly dislike spray marks left on displayed fruit. We know of people being turned off apples and pears because of fruit being coated with "poison."

* * *

That Mr. T. W. Attwood Chairman of the N.Z. Fruitgrowers' Federation Ltd. interviewed at Hull, England, stated he anticipated fair prices for fruit this season.

That if the Victorian Agent-General in London had any complaints or suggestions he might do some good by writing to responsible Association in Victoria But no—he prefers the limelight of the public press "calamity howlers."

T. STOTT & SONS

Fruit Merchants

Established 1882.

A Trial Consignment soli cited from Growers in all States.

Prompt Settlement.

11 WESTERN MARKET
Melbourne

TASMANIA

We are the Leading Australian

Fruit Exporters
Fruit Canners
Jam Manufacturers
(I.X.L. Brand)
Hop Factors
(Owning the largest cool stores for this purpose in Australia)

We stock large supplies of Corrugated Strawboard, the latest and best material for packing apples for export. ; Woodwool, etc., etc.

Tasmanian Agents for Commonwealth Government Line of steamers, Federal and Shire Lines, etc.

H. Jones & Co. Ltd.
Old Wharf, Hobart

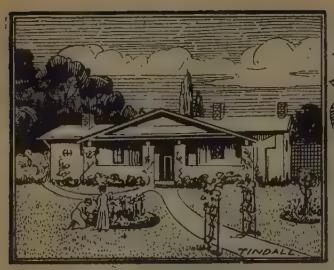
FRUIT SHIPMENTS
LONDON
Liverpool and the Continent

W. D. PEACOCK & CO.
24 Martin Lane, Cannon St.
LONDON, E.C., 4
AND HOBART, TASMANIA

Solicit Consignments.

The High Standing and Long Experience of this Firm is a Guarantee that the Best Interests of Consignors will be conserved.

That district packing sheds are not working well in all apple-growing districts, overhead expenses having proved too costly. It is hoped that the proposed packing sheds in the citrus districts will fare better.



BEAUTIFYING THE ORCHARD HOMESTEAD

BULBS FOR SPRING.

THIS IS THE MONTH for the bulb lover. He is thinking of hyacinths, tulips and daffodils, of jonquils and snowflakes, of ranunculus, anemones, watsonias and freesias, and of many other bulbs as well. For this is the real time for planting all spring-flowering bulbs and corms. Some may have been planted earlier; other gardeners are leaving theirs till later.

I have never favored late planting. I like to get the bulbs in early, so that they can make a really good root system before they send up their foliage. The foliage is, of course, very necessary, but good roots, and plenty of them, are necessary if a vigorous and ample flower development is to be attained.

All of these bulbs—we say bulbs for convenience of expression; the last four mentioned plants really come from corms—send their feeding roots from the base of the bulb, so that any food supply should be placed below the bulbs, where the roots can readily reach it. **Almost any manure is useful, except fowl manure.** I have usually found that fowl manure is too strong for bulbs, and that strong, coarse growth comes, the flowers often being coarse and green.

It might seem a strange thing, but the best bed of hyacinths that I ever grew had a lot of old bags and sacks worked in the soil below the bulbs. They were simply rolled tightly together and placed in trenches, six to nine inches down. I learned this trick from Chinamen, who always bury the old sacks in the vegetable beds. After all, there is sound reason for this, for the sacking is composed of jute fibre, and this fibre is the base of Jadoo fibre, which is one of the best stimulants for bulb life. Among manufactured plant foods, bone dust is the safest, while any potash manure is also helpful.

It is sound practice to keep the weeds away from the young growing bulbs, for in the young, succulent weed growths there is an excellent hiding place for young slugs and snails. These pests are very fond of the tender, sweet tip of bulb growths, and consequently no encouragement should be given to them. A top dressing of lime is helpful for all of these bulbs. They are all lime lovers. The lime keeps down pests, and it is beneficial to soil action as well.

BULBS IN POTS.

ANY OF THESE BULBS are quite attractive in pots. Pot culture of the bulbs is not always understood, and frequently quite the wrong practices are followed. So many folk imagine that, because bulbs are grown in pots, they should be grown in bush houses, ferneries, glass houses, and in similar structures in which pot plants are grown.

Bulbs grown in pots are not pot plants, according to the accepted use of this term. It is merely that the situation of growing has been changed—not that they are going to another part of the garden, but that, instead of being grown in the open ground, they are grown in pots and in a more restricted position.

That, too, is an important factor, The restricted and limited soil area—that is, in the pots—demands that the soil shall be much richer in the pots than it would be in the garden. Good loam, with well-rotted manure, leaf mould, are among the soil necessities for bulbs in pots. Some good wood charcoal among the crocks at the bottom is also an essential. For permanence of food supply, an ounce or so of bone dust would be very helpful, and also a slight dressing of lime.

There should be enough bulbs in the pot to take away the element of sparseness—say, six good bulbs in a five-inch pot, or eight in a seven-inch pot, and so on. But then, again, the size of the bulb will often determine the number to be grown in a pot.

The pots should stand right out in the open, where they can receive just the same sunshine and weather conditions were they growing in the garden soil. This hardens them, and prevents an undue "drawn" length of foliage. They should not stand directly on the soil, for that would be an inducement to the roots to travel into the soil through the drainage hole. They should stand on an asphalt, concrete or bricked path, or they should be placed on bricks or on a board, so that the root system shall be confined to the pots.

Then, when the flowers come, the pots may be used for room, bush house or hot house decoration.

The treatment of bulbs which have been grown in pots, after the flowering period, is an important one, if the bulbs are required for flowering in subsequent years. It is not wise to allow them to remain in the pots. As soon as the flowers have gone, the bulbs, foliage and all, should be carefully tipped out of the pot, without breaking the ball of soil and roots. These should then be planted in a sheltered position in the garden, and well watered. This prolongs the growing period, and keeps the foliage, which in its turn stores up nourishment in the exhausted bulb for flowering next year.

* * *

TWO NEW ROSES.

FLORENCE RUSS, a hybrid tea rose, has received the gold medal of the National Rose Society of Victoria. It is a very pale pink-colored rose, good for exhibition or decoration, and nicely fragrant. It carries its flowers in good bunches, much after the style of Mary, Countess of Ilchester. It is, so far, mildew-proof. At first glance, a bush in flower reminds us of Madam Jules Bouche. It is worthy of a good trial in gardens.

Prosperity will make a grand pillar rose. Its flowers are a great improvement on Moonlight, but the latter is a strong climber, while the former is a pillar rose. It gives long stems of sprays of flowers, which are white, and of medium size. It is a hybrid musk, the flowers being of rosette form. It is a free, and almost a perpetual, bloomer. We grow too few pillar roses in our gardens, so that this one should be a distinct gain to us.

* * *

WHAT TO DO IN THE GARDEN.

GLADIOLUS CORMS will need lifting. The new corms make very little growth after flowering, so that the plant can be lifted and the foliage stem cut off. Then the corms may be air-dried in boxes for a few days. As soon as they are thoroughly dry, they may be cleaned, separating the old dry corm at the base, and throwing it away. The cormlets may be separated, and the whole stored in a dry place, for planting in mid-winter and spring.

The planting of spring bulbs should be completed. (See notes above.) Plant out seedlings of winter and spring annuals for later flowerings.

Keep **Sweet Peas** and other annuals growing, if the season be dry. Do not neglect to water pot plants. See to the top dressing of grass lawns.

Go around your neighbors' gardens and select fresh roses for planting in winter. Roses are now about their best, and one look at a rose is worth a hundred peeps into a nurseryman's catalogue.

AUSTRALIAN POMOLOGICAL COMMITTEE.

Origin of Trevatt Apricot.

Synonymous with Leewood Perfection.

A meeting of the South Australian Sub-Committee on Stone Fruits was recently held.

There were present:—Messrs. H. Wicks, R. Fowler, and G. Quinn (Mr. G. Laffer M.L.A.., unable to attend).

Apricots: Trevatt.—Fruits received from Mr. W. J. Allen, grown at Yanco Irrigation Settlement, were quite ripe but not crushed when received on January 12th. The foliage was in good fresh condition. These were compared with the growth on a two-year-old budded tree worked on a mature stock, and the fruit of same, which was larger but not quite so ripe. These were considered to be identical.

The Trevatt fruits grown at Government Experimental Orchard, Blackwood (South Australa), from Yanco N.S.W. buds were compared with fruits from *Leewood Perfection*—a mature tree from a South Australian seedling from Moorpark, selected about 40 years ago by the late Edwin Smith, of Leewood Garden, Glen Osmond Road, and Clifton Nurseries, Walkerville. This tree was budded from a plant which came from Hawter's Nurseries, and was planted in 1908. These fruits are considered to be identical and develop and ripen simultaneously, being distinct from any other variety in the collection. This decision was reached after carefully comparing the wood, foliage and stones of the two fruits.

Comparisons were made between fruits of Trevatt and Blenheim (Shipley's), as grown at Blackwood, and the opinion formed that these are in no way identical either in the character of the fruits and the seasons of ripening. Further, the Trevatt fruits are quite distinct from the Royal varieties, whether grown from locally-procured stock or from trees imported direct from California. The Committee formed the opinion from the fruits and the literature of other countries that the variety grown at Blackwood as Shipley's Blenheim is correct, but the tree bearing the name of Blenheim only received from Hawter, West Australia, is identical with the Californian Royal.

In the Blackwood collection, besides this tree from Hawter, there are trees labelled Royal received from H. Wicks, 1908, Californian Royal from the same nurseryman, received 1908, American Royal received from Hawter, planted 1908, and simply Royal from H. Wicks, planted 1908, all of which are identical. The tree at Blackwood labelled Newcastle Early, received from Searl, New South Wales, and planted 1910, is also identical with Royal.

The variety labelled St. Ambroise, received from Nobelius and planted 1908 at Blackwood (ripe mid January at Blackwood) is incorrectly named, and has a close resemblance to Moorpark and Hemskirk, though ripening slightly later.

The St. Ambroise ripens much earlier than this, and is more flattened in shape and higher coloured on exposed side.

Two trees at Blackwood labelled Tilton, one received from Nobelius, and planted 1908, and the other worked from a tree imported directly from Roeding, California, and planted 1915, are distinct in both fruit and foliage. The leaves of the former are more conspicuously serrated, and the stone round and smooth. The stone of the latter is large, flat and rough.

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AGENTS WANTED

Fruitgrowing under Irrigation

River Murray Pruning Competitions
A Visit to Berri Experimental Orchard

(By Our Special Correspondent.)

COVER CROPS to replenish the humus and nitrogen contents of the soil give best results when sown in March. Where the seed has not been sown during that month, growers are advised to **plant during April.** Early planting allows the plants to make rapid growth before the soil becomes cold and the early frosts commence. Early sown cover crops are ready to plough under during late July and early August.

Hand-Hoeing.

During the fruit harvest, the control of summer weeds, to a large extent, has more or less been neglected in the majority of vineyards and orchards. Channels have become grass-grown; the strips along the vine trellises and patches of soil around the trees are more or less weedy, especially on the heavier lands.

The weeds should be hoed out, as they are **robbers of moisture,** which can be ill spared at this period; the vines and trees are maturing their wood, which will be used for carrying next season's crops.

Repairing Channels.

In many areas under irrigation, the channels are concrete lined; especially is this the case where the soil is sandy. The channels should be lime-washed periodically to help to preserve the concrete, and to keep a smooth face on it. The wear and tear on smooth concrete lining by the action of running water is considerably less than where the channels are more or less rough.

The Drying Grounds and Plant.

All old and rejected dried fruit should be cleaned up from the drying grounds and destroyed, as this provides harbors for the dried fruit moth.

Trays should be well cleaned before stacking away, as the fruit juices on uncleaned trays absorb moisture during winter months from the atmosphere, and produce suitable conditions for the rapid growth of moulds. The moulds spore freely, and these are ready to infect the next season's fruits; in addition, the trays are dirty and discolor the fruit if they are not washed before using.

All broken trays, torn cover sheets, side curtains and bottom sheets should be placed on one side, and repaired as time permits.

* * *

Probably many growers will still be finishing off the drying operations of pears, gordos, malagas and sultanas in early April. The weather will be somewhat cooler than in March, the days shorter and the nights often dewy.

All fruit should be covered each night to protect it from dew, and opened out each morning to the sun. Should the fruit be left uncovered during the nights, the absorption of moisture will counteract, to a large degree, the evaporation of moisture during the day, and the drying operations will be unnecessarily prolonged.

* * *

River Murray Pruning Competitions.

THE RIVER BRANCHES of the Agricultural Bureau of South Australia, met in conference on February 21, at Barmera. Representatives of the following branches were present:—Renmark, Berri, Barmera, Moorook, Cadell and Waikerie. Mr. W. R. Lewis, of the Berri Bureau, occupied the chair; Messrs. H. J. Finnis (Secretary Advisory of Agriculture) and C. G. Savage (Deputy Horticultural Instructor) were also present.

Mr. H. F. Lehmann, Hon. Secretary 1922 competitions, gave his report and balance-sheet of last year's matches. The series of competitions had been conducted at Waikerie, Moorook and Berri, with the championship at Waikerie.

The Vine Championship Cup was won by a Waikerie competitor, Mr. F. Dunstone, and Mr. H. W. von Bertouch, of Berri, had gained the cup for the Tree Section.

All the delegates were in favor of carrying on the competitions this year, and spoke of the good that the competitions were doing in lifting the pruning practices to a higher level.

To gain continuity of judging and to aim at establishing definite methods of pruning it was decided to ask Mr. C. G. Savage (Deputy Horticultural Instructor) to again act as judge throughout the competitions. In each centre the judge will be assisted by two consultative judges appointed by the local committees.

The Cadell branch asked that a competition be held this year at that centre. Conference decided to agree to the request.

The competitions will be divided into two sections—1, Vine Section; 2, Tree Section; each section having three classes. In the former, currant, sultana and Gordo vines will be pruned. In the latter division, peach, apricot and pear trees will be treated.

The three competitors in each section at the various district competitions gaining the highest number of points will be eligible to compete in the championship competition.

The following dates were adopted for the competitions:—

District Competitions:—Cadell, June 19; Waikerie, June 20; Moorook, June 21; Renmark, June 26; Berri, June 27.

Championship Competition:—Kingston, June 28.

The cups for the championship competitions will in all probability be given by firms who are dealing with the various settlements along the river, wishes having been expressed in that direction. An effort is to be made to provide prizes for the competitors gaining second and third positions in the two divisions.

* * *

THE BERRI EXPERIMENT ORCHARD.

THE EXPERIMENT ORCHARD at Berri, South Australia, was visited on March 14 by the Barmera (S.A.) Bureau. The members are nearly all returned men, who have recently taken up orchards in the newly allotted Nookamka area.

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The members were keenly interested in **the drainage scheme** that is nearing completion; this scheme has and still is causing great interest to the surrounding fruit areas. The area which is being drained contains one of the worst, if not the worst, salt patch in

the River irrigation areas, and if this section of land can be reclaimed and brought into a payable proposition other areas should be capable of being successfully treated.

The picking, dipping and drying of **the Smyrna Fig** proved exceedingly interesting, especially as several of the visitors had planted small areas of figs on the results obtained from the plantation at the orchard. The manager explained that requests for dried figs could not be met. Orders had been received from all the States, and also from Colombo, but, owing to the limited pack, the local demand could not be filled. The crop this season would be nearly double that of the preceding year. This was owing to the development of the trees.

The **dipping and drying of the Muscat Gordo Blanco Grapes** for lexias was also studied. The fruit was being passed through a boiling lye, made by adding 1 lb. of caustic soda to each 15 gallons of water.

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The processing of **grapes for London layers or clusters** was also explained. The fruit was cut from the vines, and the bunches were handled, as much as possible, by the stem, to prevent the bloom being rubbed off the fruit. Only the best fruit was used for layers, and the thin bunches were better than the very thick clustered bunches, as the fruit dried down quicker. From the picking buckets the fruit was laid straight on to drying trays, without being dipped, and then exposed to the sun. Should rain or dewy nights occur, the fruit was stacked and covered. When dry, the bunches were sweated and packed.

The varieties being dried as layers were the Muscat Gordo Blanco, White Malaga (Waltham Cross) and Santa Paula.

The various **manure and fertiliser plots, the pruning and training trials, and the variety plots,** were also inspected.

Keen interest was shown in the **overhead trellised Daria or Ohanez** export grape vines. By this system, the manager explained, the fruit hung free from the foliage; consequently a less number of damaged berries were found on the bunches.

Mr. W. R. Lewis, one of the best known men on the river, and one who has made a success of fruit and vegetable growing under irrigation, and occupies the position of secretary of the Berri Bureau, also accompanied the party. He greatly added to the success of the inspection by answering many of the questions upon which the returned men needed light.

At the close of the afternoon, a hearty vote of thanks was passed to Mr. C. G. Savage (Deputy Horticultural Instructor and Manager) and to Mr. W. R. Lewis for the profitable afternoon that the visitors had spent at the orchard.

New Zealand.

Export of Fruit.

Good Prices Anticipated.

Cable advices state that Mr. T. W. Attwood, managing director of the New Zealand Fruitgrowers' Federation, visited Hull, Liverpool and Manchester during March, in connection with shipments of fruit from New Zealand. *Continental buyers at Hull said the prospects for next season were good, and they anticipated fair prices will be realised....*

District Notes.

The Director of the Horticulture Division (Mr. J. A. Campbell) has received the following reports from his officers regarding orchard and marketing conditions at the end of February, 1923:—

North Auckland.—Apples: Being harvested. Lemons and Pears: Average crop. A very severe hailstorm did considerable damage to glasshouses in the Dargaville district, one large house at Maungawhare being almost completely destroyed. Harvesting is in full operation. Pears particularly clean.—(H. F. Frost.)

Auckland.—Apples: Average crop. Lemons and Oranges: Light crop anticipated. Weather wet and rough; strong winds damaged crops and trees. Late infection black spot on pears prevalent.—(J. W. Collard.)

Waikato.—Apples: Picking in full swing. Lemons Nice Crop setting. Nectarines. Brown rot has taken a heavy toll of the crops. Pears up to expectations. Prices low, owing to glut of Williams.—(T. E. Rodda.)

Hawke's Bay.—Apples: Medium heavy crop. Apple leaf hopper did great damage. Lemons: Growth very strong; heavy crop anticipated. Pears: Late varieties below average. —(W. H. Rice.)

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Manawatu and Wairarapa.—Apples: Mid-season varieties on market. Apricots, Cherries, Nectarines, Peaches, Pears and Gooseberries: Heavy crop harvested. Plums: Market glutted. Tomatoes: Only a few growers succeeded in conquering the tomato blight. One Fielding grower lost 5000 plants.—(J. W. Whelan.)

Nelson.—Apples: Fair crop gathered. Pears: Short crop, excellent quality.—(W. C. Hyde.)

Nelson Central.—Apples: King David, Jonathan, London Pippin, Adam's, Dunn's, Delicious, picked for export. Red mite prevalent; late infection of black spot on the Statesman variety. Pears: Williams all picked, very low prices realised. Winter Cole and Nelis a light crop; other sorts a medium crop only.—(J. H. Thorp.)

Motueka.—Apples: Good crop. Majority of growers sending good quantity overseas. Pears: Mid-season varieties gathered for cool storage.—(G. Stratford.)

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Marlborough.—Apples: Fair average crop. Nectarines: Light. Peaches: Very light. Pears: Fair. Tomatoes: Heavy. Walnut: Very fair.—(C. Craigie.)

Canterbury.—Apples: Crops very good. A large percentage of black spot; prices rather poor. Nectarines: Fair; good prices. Peaches: Crops good. Pears: Crops heavy, slow of sale. Plums: Heavy crops, with rather poor prices. Walnuts: Crops heavy, with a good deal of disease.—(L. Paynter.)

Otago.—Apples: Good average crop. Nectarines and Peaches: Average crop. Earwigs did considerable damage. Pears, Plums: Average crop. Raspberries and Strawberries: Average crop. All fruit harvested. Walnuts: Good crop. Black spot making its appearance.—(B. G. Goodwin.)

Pear Midge in New Zealand.—The Pear Midge which is doing considerable damage to orchards in New Zealand, is stated to be *worse than fire blight.* Close enquiries regarding this pest are being made by Australian entomologists.

HOME MAKING and UPKEEP

(By "Nymphae.")

The Easter Bride.

THE TITLE FORESTALLS a popular advertisement beloved of art furnishers, and fashion drapers. The close of the Lenten season is a favorite time for the bride-to-be to select for her honeymoon, thus accounting for the appearance of delectable advertisements advising the Easter Bride and her husband to do wisely, and purchase their furniture etc. at the "best place in town" for such articles.

It is more with the idea of helping the girl contemplating a wedding to select her own personal belongings that I write.

What is considered most important from a spectacular point of view is the wedding-gown, and truly there are so many styles and frabrics from which to choose, that a few suggestions may prove helpful.

For generations Satin has been a favorite material, and surely it is hard to beat.

A tall graceful figure would look charming draped in such a gown.

Others favor crepe de chene, charmeuse, georgette and other later-day fabrics. Of course the style chosen would help to decide the material or vice versa, also the figure, height, etc. of the bride would be taken into consideration.

For those whom it would suit nothing would look more regal, dignified or beautiful than a gown fashioned on classical lines such as was worn by the ladies of ancient Greece. Trains are so easily arranged on dresses such as these.

Numerous are the ways of wearing the orthodox veil as are the materials of which it may be fashioned. It is a good plan to choose a style most becoming to the shape of the face.

Time was when there would have been no need to mention a color as regards the all important garment. I may be old-fashioned, I most probably am—but cream or white seems to me to be the most appropriate and suitable. One reads of gorgeous wedding-gowns of "flesh-pink" and "blush of dawn," but to my mind the "white bride" is ideal.

For quiet weddings it is quite appropriate for the bride to wear a coat and skirt or an ordinary frock, but if circumstances permit and she has a desire for the orthodox gown I would be the last one to persuade her otherwise. Next item of importance is the travelling dress which may be either costume or one-piece frock. For the Autumn bride, either grey or brown with tonings of autumn colors would be appropriate.

If grey were chosen, the footwear should match, also the handbag. Were it a coat and skirt, a grey silk (or a silk of autumn toning) jumper would look well worn under the coat; also a grey hat with autumn trimming. A most popular shade at present is invitation grey. Brown is also fashionable in tones of nigger, golden, henna with touches of orange lime or tango. The girl of modest means must necessarily choose her trousseau to the best advantage, and I think a velvet frock of a color suitable to her would find a very useful place, also one of silk either of crepe de chene or of satin, both of which have dropped considerably in price. Plainer frocks of fugi and twill would serve well for the winter months ahead. An overcoat of any of the popular materials displayed would be of great service.

Skirts and blouses have come to stay. A tweed skirt and one of a lighter weight material with several blouses would prove a boon to any girl—if she provide a silk jumper or may be two so much the better. Hand-made jumpers prove the nicest and the best wearing, but of course much depends on the time at the disposal of the all-important person.

With regard to footwear, it seems that many girls favor "Louis" heels. Even if this is so they should provide themselves with at least one pair of sensible, flat-heeled, not necessarily ugly, shoes for ordinary wear which will afford them the maximum amount of comfort, and after all comfort does play an important part in our health and lives.

Hosiery is another important item which must really be left to the discretion of the one concerned. Some girls wear silk summer and winter while others declare for cashmere during the cold months. Of course one must take into consideration the money at one's disposal, especially where the more personal items of underwear are concerned both as regards quantity and the materials of which they are fashioned. For the moderate trousseau half a dozen sets should prove ample, and if a good linen is obtained it will be found more durable, and lasting than any silk or madapolam.

RECIPES.

Date Pudding. (Boiled)

½ lb. Flour, ¼ teaspoon salt, ½ teaspoon carbonate soda, ¼ teaspoon cinnamon, ¼ teaspoon spice, ¼ of a nutmeg grated (in sieve together) ½ lb. dates, one piece candied peel, ¼ lb. shredded suet (rubbed into flour, etc.) 1¼ gills of milk (added last) 3 ozs. sugar.

Method—Put on big saucepan. Mix with wooden spoon. Mix fairly wet. Boil two hours in dry flour cloth, or steam 2½ hours in buttered basin covered with greased paper.

Steamed Apple Pudding.

6 ozs. chopped apple, 6 ozs. breadcrums, 1 ozs. suet or butter, 4 ozs. sugar, ½ nutmeg grated, 2 eggs, 1 tablespoon self-raising flour, or ½ teaspoon baking powder.

Method—Put on saucepan half full and steamer on top. Mince apple, mix with all dry ingredients and eggs slightly beaten. Grease basin, steam 1¾ to 2 hours. Serve with sweet sauce.

Pufftaloons.

½ lb. Self-raising flour, 1½ gills (bare) milk, pinch salt, jam.

Method—Mix into a lithe dough; knead slightly. Cut into rounds ¼ in. thick. Heat fat, when it begins to smoke lower gas, and fry golden brown on both sides. Turn with a knife. Do not cook too quickly, or the centre will be soft. They must be thin, as they rise very much. Drain on paper, which have ready. Serve at once with jam or honey, or if for breakfast garnish with bacon.

Devilled Almonds.

¼ lb. almonds, a little salt (½ teaspoon) ¼ gill sweet oil or good clarfied fat, cayenne to cover 3d. Ginger to cover 3d.

Method—Blanch the almonds. Make oil or fat hot in a frying pan, watch it well, lower gas. Put in almonds, cook gently till a light brown; stir frequently. Lift on to white blotting paper, sprinkle with cayenne, ginger and salt. Toss them well.

Lemon Jam.

5 large Lemons.
1 Orange.
6 pints of water.
6 lbs. of sugar.

Method: Slice the Lemons finely; remove pips. Soak in water over night; bring to boil and simmer until skins are tender; add sugar and boil until syrup jellies when cold. A quarter of an hour before the jam is finished add juice of 2 Lemons.

N.B.—If Orange is not used omit finally adding juice of 2 Lemons.

Answers to Queries.

Doyenne Du Comice Pear.

"Grower," Merrigum, (Vic.) writes:—

I have in my orchard a block of "Du Comice" Pears, nine years planted, and situated between Josephine Pears on the one side, and Kieffer's Hybrid on the other, but the "Du Comice" trees, 200 in number, have never yet borne more than a few Pears on some trees. I have six other varieties of Pears planted at the same time, all bearing, and some of them have been doing so for five years. The Du Comice trees are smaller than most of the other varieties, which have been bearing heavy crops, though all on similar land and all receive regular cultivation and irrigation.

1. Do you know if the Du Comice is a shy bearer, particularly in the north;

2. If a good bearer, is it slow at coming to maturity?

3. Are these Pears, when grown, a satisfactory market variety?

Answer (by E. Lawford, Doncaster, Vic.).

(1 and 2). My experience of the Doyenne du Comice is that it is an inveterate loafer. When experimenting years ago with various varieties, I was less successful with it than with any other variety of Pear, both as regards good cropping and good growth of tree.

(3) If your correspondent could induce in his Comice trees a reasonable improvement in their habits of growth and bearing, I believe he would be quite satisfied with them, as the Pear is in the first class both for local and overseas markets, but I can give him little encouragement to try.

Answer (by P. J. Carmody, Chief Orchard Supervisor, Victoria):—

The Doyenne du Comice Pear has been tried by several leading commercial Pear growers and condemned because of its infertility, despite the fact that interpollination has been attended to.

My answer to your questions are as follow:—

(1) It is a very shy bearer in the South of Victoria. I have no knowledge of its cultivation in the North, but I believe it to be a shy bearer there also.

(2) It has had a fair trial in the South and remains a shy bearer.

(3) Yes. It is a splendid market variety, and good-quality Pear, and has been discarded solely because of its shy bearing.

Viticultural Queries

G. R.," Yenda, N.S.W., writes:—

"Could you please tell me the cause of Pedro Vines, after having made vigorous growth, suddenly dying. They have been irrigated three times this season. The dead roots have a white speckled appearance. There is no sign of white ants.

Answer (by H. L. Manuel, Government Viticulturist, N.S.W.):—

One could not tell what vines are dying from without more information. In a case such as this, best means of locating trouble is to see the plants on the spot. If your correspondent will communicate with me I will endeavour to give him a call when next on a visit to Griffith area. However, in the meantime I would suggest him forwarding to me samples of roots wrapped in a moist cloth for microscopical examination.

Answer (by F. De Castella, Victorian Government Viticulturist):—

It is rather difficult to reply to the above question without seeing specimens of the vines.

The "sudden dying" of his Pedro vines, after having made vigorous growth, might be due to a variety of causes. Possibly to injudicious watering, especially during a heat wave. Apricots are sometimes killed in this way. Though vines are much less susceptible they occasionally suffer in similar manner. I should suggest that he send specimens of the roots to the Biologist of the New South Wales Agricultural Department.

"Vigneron," Griffith, N.S.W., writes:

"I have reached the 'What to Plant' stage of development, and I would like your opinion as to the three best varieties of Grapes suitable for export. I know that the Ohanez is largely exported to England, but have you any facts regarding Flame Tokay and Black Malaga being sent there?

Answer (by F. De Casetella, Government Viticultrist, Department of Agriculture, Vict.):—

"The best Grape for export, so far as keeping power is concerned, is, without doubt, the Ohanez. It easily beats all others. Next to it, but some distance behind, yet good enough to ship safely, are Red and Black Malaga (the former is attracting attention in California under the name of Maravilla, or as they spell it "Marville") Purple Cornichon and Emperor. Waltham Cross and several others scarcely carry so well, yet they are sometimes shipped satisfactorily. Doradillo carries fairly well, but it often has an unattractive appearance on opening, though the fruit is sound."

Answer (by H. L. Manuel, Government Viticulturist, Department of Agriculture, N.S.W.):—

"The Ohanez and Malaga have proved to be the two best carriers. Unfortunately they are not too good as bearers, and particularly is this the case with the Ohanez. Many other sorts have been tried for overseas car-

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riage, but up to the present no variety has been found to replace the Ohanez for keeping qualities, and long distance transport. The Flame Tokay has given satisfaction in countries that are situated closer to the London markets than we are, but no data of it proving the same in this country can I gather.

"It may be as well to warn the enquirer not to plant too extensively of export varieties, until it is found that the export of fresh Grapes is on a stable footing. To-day, and in the past, as regards oversea shipping one can only say that Australia is still in the experimental stage as regards this fruit."

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Orchard Drainage.—Effective drainage is of great importance to the orchardist, and Castlemaine Brick and Tile Pty. Co., a company recently formed, is specialising in the production of pipes for the purpose. Some years ago a number of hydraulic sluicing plants worked the creeks and gullies in the Castlemaine district, and the clay collected in storage dams. This clay is now being used for the manufacture of pottery and pipes. The pipes being produced from this clay are very good quality, and the company is producing the various sizes required for orchard and other drainage.

NEW SOUTH WALES

District News and Notes.

Murrumbidgee Irrigation Areas.

By our Special Correspondent.

Canning factory needed at Griffith.

It is understood that a recommendation has been made by the Water Conservation and Irrigation Commission to the effect that, instead of completing the Griffith Canning Factory, the Leeton Cannery should be extended to accommodate future supplies of canning fruits from the Griffith area.

In view of the fact that for at least two seasons this policy has been tried out, with unsuccessful results both to the growers in Griffith, and to the standard of quality expected from the Leeton Cannery; and that £10,000 has already been expended upon the foundations of a Griffith Factory, much concern is expressed in and around Griffith at the possibility of this ill-advised policy being continued indefinitely.

The Griffith Show.

A most successful show was held in Griffith on the 1st March, upon the new grounds held by trustees from the local Race Club, and Agricultural Committee. The Show was opened by Mr. J. G. Evatt, Resident Commissioner, and the majority of the judges came over from Leeton. Mr. P. Gersbach, of Leeton had a fine all round display of farm produce—while the machinery exhibits and the ring events were particularly remarkable.

Noxious Weeds on Government Property.

A great deal of comment has been raised on the Areas by the issuing of summons to many orchardists on account of noxious weeds found on the confines of their farms. While it is recognized that the enforcement of the regulation dealing with this matter is necessary to the interests of the orchardists themselves, it is felt that the Commission should itself take steps to clear their own properties, the roads, and channels banks, of these same weeds. At least 50 convictions were registered at the Whitton Court on the 14th March, and the growers are combining to protest against the high-handed action of the Commission, and to endeavour to bring home to the authorities the necessity for setting their own house in order, before proceeding further against the settlers.

Strike at Leeton Canning Factory.

A serious situation has arisen in the Leeton Cannery through the striking of the female operatives in the busiest period of the peach season. If the strike continues it is estimated that a loss of not less than £15,000 in fruit will be incurred. In view of the fact that the Leeton Cannery is operating under the Federal Pool this year it is felt that this loss, if unavoidable through no settlement being arrived at between the authorities and the employees, should be born by the Federal Pool.

Earnest efforts are being made to organize the women of the M.I.A. to take the place of the strikers, in the event of no settlement of the dispute, at an early date. It is realized that if the Leeton Cannery is forced to close down permanently for this season, there will be an additional prejudice in the public minds against country, State or co-operative owned Canneries, and, that, if this strike succeeds in accomplishing its objective, private enterprise will have the canning industry from N.S.W. in its own hands for some years to come.

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New Method of Fighting Citrus Pests.

Professor Gaunt, of Berkeley University, U.S.A. is expected to visit the Areas shortly during his Sabbatical vacation. The Professor hopes to demonstrate the possibilites of Hydrocyanic gas in liquid form, as a spray for orange trees, in place of the usual fumigation methods adopted generally in Australia.

GRIFFITH PRODUCERS' CO-OPERATIVE CO. LTD.

Review of Season's Operations.

We have received a copy of the balance sheet and trading accounts of the Griffith Producers' Co-operative Co. Ltd. for the period ending November, 1922.

This company has for its object the marketing of the produce of the settlers on the Griffith portion of the Murrumbidgee irrigation area, comprising considerably over 1000 holdings.

This company is so constituted that it is three companies in one, dealing, by separate sections, with the interests of fruitgrowers, stock-owners and dairy farmers. The company has been in operation now for four years, and is rapidly growing in strength. Extensive packing sheds have been erected for the packing of fruit, and abbatoirs and butchers' shops for the handling of stock. Extensive areas of agistment country are leased for the use of shareholders' stock.

The fruit section, which comprises the larger portion of the shareholders, receives, processes, packs, and finds markets—both at home and abroad—for the various classes of fruit, which fall mainly under the headings of citrus, dried fruits, wine grapes and canning fruits.

All classes of agricultural supplies are catered for through a trading department, dealing in seeds, manures, cases, etc.

The turnover last season was approximately £70,000, and it is anticipated, on the present plantings, that this value will, within the next five years, be at least six times this amount.

The Balance Sheet of the Fruit section shows amongst the Liabilities—Shares paid up £2,086, due to shareholders £2,156; due to Merchants £3,159; Bank overdraft £5,225.

The £2,000 due to the Water Commission is more than set off by the sum of £2,231 due by the Commission to the Company.

The Assets include Buildings, plant, equipment, stock, sundry debtors, etc. Figures for the agistment section and the meat section are included in the Balance Sheet, and the Trading and Profit and Loss Accounts are as shown.

HAWKESBURY FRUITGROWERS FORM COMPANY.

River Steamers to be Purchased.

The Hawkesbury River Fruitgrowers' Association have decided to form themselves into a limited liability company, with a nominal capital of at least £5000, in £1 shares, operations to commence when 1500 shares shall have been applied for. It is proposed to handle their own products by the purchasing of vessels of approximately 40 tons, with a carrying capacity of 1500 to 2000 cases each.

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TASMANIAN AGENT
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CYGNET

The company's steamers will operate between Sackville Reach and Hawkesbury River railway siding. It is believed that a large saving to the growers would result by comparison with the present sea route to Sydney.

STARLINGS AT LEETON.

A correspondent writing from Leeton, 14/3/23, states: "Very heavy crops of peaches and grapes still to be harvested throughout these areas. Starlings have been a nuisance, and concerted action will have to be taken by growers here to deal with them in future dry seasons. In normal years, they do not congregate on the irrigation areas in such large numbers."

Western Australia.

In the Industrial Hall, Perth, Mr. G. W. Wickens, fruit expert of the Department of Agriculture, delivered a lecture on the fruit industry. Professor Paterson presided.

Professor Paterson, introducing the lecturer, said there were nearly 2,000,000 acres under crop in the State. Primary production was increasing, and, in his opinion, so far as agriculture in its various branches was concerned, the application of scientific methods would be the secret of success.

Mr. Wickens said the day had passed when it was thought the soil of Western Australia consisted only of sand. At one time it was said the State consisted of an alliterative list of names commencing with the word sand. That idea was now dissipated.

Wheat, wool and fruit bulked amongst the largest of the products of the State.

In Western Australia to-day there were nearly 3000 people engaged in working orchards for commercial purposes. Taking the value of those orchards at a conservative basis, they had a capital value of over £2,000,000.

For several years past the orchards of the State had produced an average value of over half a million sterling, while last year the value of the produce totalled £703,540.

Fruit-growing was not a vocation that gave a quick or an easy competence; but it was essentially one that provided congenial work for a family, and one which, in time, would lead to a comfortable position in life.

Mr. Wickens urged growers to pay close attention to their crops and packing.

Seventy Returned Soldiers at Kendenup, who with their dependents number 220, have unanimously resolved that they desire to stay at Kendenup, and have requested State and Federal assistance.

The Repatriation Department is making the necessary advances.

FRUIT GRADING.

Interesting demonstrations have been given at fruit shows held in Victoria during March with the Ellis Fruit Grader. The manufacturers report that 30 machines have been placed in the Ardmona and Shepparton districts. A demonstration was recently given at Gorae before members of the local fruitgrowers' association. After a kerosene case of Apples had been put through the grader in one minute, a few times, growers expressed their satisfaction and a number of orders were placed. The manufacturers advise that they will be pleased to give demonstrations in any districts throughout the Commonwealth.

COLD STORAGE OF PLUMS.

American and Australian Experiences Compared.

(By J. H. Lang, Harcourt.)

The subject of the cold storage of Plums is capably dealt with in Bulletin No. 344, College of Agriculture, Berkeley, Cal., U.S.A. After perusing same, Mr. J. H. Lang, of Harcourt, Vic., has prepared the following summary for "Fruit World" readers:—

THE PLUM HAS NOT been regarded, heretofore, as a cold storage fruit (states U.S.A. Bulletin No. 344). At most, it has been stored only a few days to avoid a temporary glut of the market. The investigations reported herewith, however, indicate that certain varieties of California Plums can be held in storage for optimum periods of about six to twelve weeks, and after removal from storage will hold up in good dessert condition for an ample period to admit of handling on the market.

Objects.—The purpose of placing fruit in cold storage is to prolong the time during which it remains in good condition. This is accomplished—(1) by retarding the ripening processes which continue after the fruit is harvested, and (2) by preventing or retarding the development of decay organisms. Thus cold storage extends the time for marketing, helps to avoid the glutting of markets, and decreases the amount of spoiling.

The production of Plums in California is 13,200,805 bushels, of which about 2,000,000 bushels were shipped to eastern (U.S.A.) markets, as nearly 40 per cent. of the trees are not of bearing age, the production should be doubled in the near future.

The principal varieties shipped are Burbank, Diamond, Grand Duke, Giants, Tragedy, Wickson, Pond's, Kelsey, and the average price realised was 2.50 to 3.00 dollars a crate.

Nature of Investigation.

During the ripening process the disintegration of carbohydrates and acids involves the production of carbon dioxide. Gore (Studies of Fruit Respiration) suggests that the amount of carbon dioxide evolved by a unit weight in a unit time may be taken as a measure of ripening velocity. The respiration number thus obtained is 6.5 for the Plum, as compared with 4.6 for the Apple; this indicates that Plums might be kept in cold storage for comparatively long periods.

The maturation velocity at 8 deg. C. is double that at 0 deg. C., and at 16 deg. C. is four times that at 0 deg. C.

Result of Experiments.

Definition of Terms.—Optimum storage period refers to the latest time of removal which would give the best results regarding quality and time of holding up after removal from cold storage.

Maximum storage period refers to the time beyond which it would be unsafe to keep the fruit in storage, though it may still be in good condition, because of the likelihood of loss of quality, softening of texture, susceptibility to rot organisms, tendency to wilting, and rapidity of breakdown after removal.

Average behaviour of varieties of Plums at 32 deg. F.:—

	Days marketable without Cold storage.	Days stored to Opt. Storage.	Maximum Storage Days.
Kelsey	14	66	99
Wickson . .	10	81	111
Grand Duke	12-14	63	90
Yellow Egg	9-11	46	68
Pond's . . .	5-10	28	53
Washington	5-9	21	45

Kelsey kept latest in storage, but proved of low quality; Wickson and Grand Duke, an excellent dessert fruit, and retain their quality in storage.

The most desirable temperature for storing Plums is 32 deg. F., and it is unwise to pick the fruit any earlier than the average commercial picking. The utmost care in picking must be exercised to avoid bruising the fruit in placing it in the picking receptacle, in transferring it to the orchard box, and in hauling it to the packing house.

* * *

APPLICATION TO VICTORIAN CONDITIONS.

AS THE PLUM is not primarily regarded as a dessert fruit there is little inducement to store them for the local market, though at Harcourt small lots are often kept to extend the season in the Northern parts of the State. The varieties most favoured for this are Cole's Blue Superb, Grand Duke, Golden Drop. Specimens of Golden Drop and Cole's Late Red have been kept as late as August, but were then too ripe for commercial purposes.

Plums have been shipped to England in cold storage during the last ten years with varying success, high prices being realised when fruit arrived in good condition. This market should be capable of great extension and all information regarding the behaviour of Plums in storage will be of advantage in building up the trade. Blue Superb has proved itself a very reliable variety for shipping.

Port of Manchester.—We acknowledge having received from the Manchester Ship Canal Company, Manchester, England, a copy of their illustrated publication, entitled "The Manchester Ship Canal." Details are given of the creation of the port, facilities for handling cargoes, the population served, also statistical information: plans of the canal and docks are included, also several excellent photographs depicting the port. It is stated the Manchester ship canal has converted an inland city, situated in the midst of a densely populated industrial area, into a modern seaport, which in value of seaborne imports and exports, is the fourth greatest port in the United Kingdom. "No port has a better dock accommodation and appliances, and few ports have such complete and modern equipment. And, what is still more important, no other port in the world can boast of such a wonderfully favourable geographical position."

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TASMANIA

Brownheart Investigation
Rough Handling of Fruit
Sugar Embargo
News and Notes

(By Our Special Correspondent.)

AUTUMN IS NOW upon us, after experiencing one of the coldest and wettest summers that can be remembered. On the whole, the apple crop has turned out very satisfactorily, as regards quantity and quality.

Overseas Shipments.—During the last few weeks the Hobart wharves have presented a scene of activity which reminds one of pre-war days. At one time we had the steamers "Nestor," "Ormonde" and "Argyllshire" loading cargoes of fruit for shipment to the United Kingdom. Approximately 1,250,000 bushels will be shipped this year. It is hoped that the cargoes will arrive at better-regulated intervals, and be better distributed between the ports of discharge than last year.

"Brownheart" Investigation.—Great interest will be taken in the findings of Cambridge scientists who are investigating the general carriage of our fruit that is exported to England. A lot of money has been expended in obtaining instruments for testing temperature, humidity and atmospheres of the holds the fruit is carried in. Also, the party is splitting up, and accompanying cargoes that will be carried under each of the different systems of cold storage that are operative, viz., dry air, battery, and grid. Mr. A. J. Smith, M.A., will go home with the "Somerset" (grid system), and also is investigating the general practices of picking, packing and forwarding, from the orchard to the wharf. The other members of the party (Dr. Ezer Griffiths and Mr. Griffiths) will accompany the cargoes of the "Ormonde" (dry air) and "Themistocles" (battery) respectively. Fruitgrowers generally welcome the investigation, and are doing their utmost to make it as complete as possible. At the same time, they are candid in their opinion that *the trouble is due to the conditions of carriage.* Very little is found in boats that are fitted with the battery or dry air system, where the air in the chamber is constantly circulating; whilst those boats that were fitted with the "grid" or direct expansion system, and did not use fans to circulate the air in the chambers, were the principal offenders. It is noteworthy that in the latter cases the vessels loading this season have installed fan systems to give air circulation.

Rough Handling of Fruit.—In spite of legislation provided by an amendment to the Apples and Pears Act, to make this an offence, there is very little improvement in the methods of handling. Growers are losing large sums annually on the Interstate markets through the bruising that occurs in their fruit. There is need for the responsible parties to come together and thrash the matter out. It is not possible to have a host of inspectors watching every handling of the fruit, and it is just as easy to handle a case carefully as to dump it about like a sack of wheat, whilst, with a little thought and extra trouble, stowage in the ship's hold can be accomplished without walking on the sides of the cases. If those concerned in the loading and handling of fruit on the wharves cannot be made to exert their influence in minimising the rough handling of the fruit, it is time that recourse be made to the prosecution of offenders.

Abandoned Orchards.—The matter of control of abandoned or semi-abandoned areas of orchard in the different fruit districts is causing some alarm to the growers that are adjacent to them. In a number of cases the owners, who are absentees, cannot be traced, and it is difficult to take action under such circumstances. These areas have generally been planted on unsuitable soil, and will never have a commercial value as orchards. The most sensible treatment would be to remove the

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„	"HOBSON'S BAY"	13 850 „	F. J. Ogilvie	16th May 1923
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„	"MORETON BAY"	13,850 „	J. Mason	11th July 1923

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trees, after giving due notice of intention. There is no reason why the surrounding growers should be penalised by the pests and diseases that develop on these areas, and allowed to go almost unchecked.

* * *

Sugar Embargo.—The fruitgrowers of Tasmania are keenly appreciative of the efforts of the "Fruit World" to place their position plainly and fairly before the public in regard to this matter. There are large areas of Tasmania that are devoted to the growing of small fruits, and the growers look to dispose of their crops primarily for jam and preserve-making. The present high price of sugar is militating against their chances of disposing of their products and making a profitable living from their industry. Manufacturers are shy of processing the fruit under existing circumstances. A continuation of the embargo will be a great injustice to those concerned in the small fruit industry, and will tend to the abandonment of holdings, through inability to make ends meet. This is a vital question, to this State especially, as its future development lies largely in settlement upon holdings that are suitable to the production of small fruits, etc.

Experimental Pear Shipment.—An experimental shipment of pears is being forwarded, in one of the chambers of the Commonwealth Line steamer, "Jervis Bay." All fruit that is carried in this chamber will have been precooled, the chamber also being reduced to 35 degrees before loading takes place. The varieties that are being shipped are of late export kinds, such as Jos. de Malines, Doyenne du Comice, Winter Cole, Winter Nelis and Glou Morceau, being all packed in single trays. A number of trays made up of fine material are also being included in the shipment. By the same boat a number of check shipments of the same varieties, from the same orchards, are being forwarded under ordinary conditions in the ship's hold. It will be interesting to make comparisons of the condition of the two lots of fruit upon the vessel's arrival in London, which should yield very valuable data.

Packing Classes.—It is a pity that, just when these classes were beginning to bear fruit, it has been found necessary to severely curtail the tuition. The classes are being carried on in all centres, as formerly, but at much longer intervals. This will considerably lengthen the period of training, and is unsatisfactory to those attending the classes, as they are looking forward, in most cases, to being soon able to take their place in the packing sheds.

* * *

Fruit Shows.—The annual fruit shows were held at the Lilydale and Beaconsfield centres on March 17. Although the exhibits were quite up to the quality of previous years, the fruit was not nearly so well colored. This is attributable to the late season we have experienced, as most varieties are backward in development. The principal prize-winners at Beaconsfield were as follows:—Case fruit, J. W. Brown and R. Lambert; plate fruit, S. A. Wellington, H. E. Wright, C. E. Griffiths and F. A. Finch. The Assistant Fruit Expert (Mr. H. A. Turner) officiated as judge. The Lilydale show was opened by the Premier (Hon. J. B. Hayes, C.M.G.). Very attractive exhibits were staged, in the form of apple and vegetable pyramids. Competition was keen amongst the plate classes, the principal prize-winners being E. Cash, O. Nicholls, A. Bostock and F. Walker. Mr. Walker also scored in the packing exhibits. The State Fruit Expert (Mr. P. H. Thomas) judged the fruit sections, and commented favorably on the quality of the fruit exhibited.

Personal.—Sir Henry Jones, of H. Jones and Co. Ltd., has left Tasmania on an extended tour through America, South Africa and England, primarily in connection with various business matters

Mr. F. Walker, of Launceston, returned to Tasmania, after twelve months' absence in England, Europe and America. Mr. Walker visited a number of fruit districts in America, and interested himself in the marketing methods that are employed and the general cultural practices, treatment of disease, etc.

Huonville, (17/3/23)

There is a good crop of apples and pears throughout the district, and growers are busy getting English shipments away.

Mr. J. Lomas, Huonville, Tas., patented a new grading machine. This machine is totally different from other graders on the market, the fruit being graded by weight. The fruit is carried along a moving belt, and as it reaches, shall I say, a trap door; there are a series of these, of course regulated to carry certain weights; the fruit drops through to a tray.

Mr. Lomas has also invented and has in operation a new wood-wool machine. It is on the rotary system with 24 knives, each knife having 34 revolutions to the minute. The machine is capable of cutting ½ a ton of wood-wool a day.

NEXT SEASON'S RASPBERRIES.

New Canneries for Tasmania.

Prior to the departure of Sir Henry Jones on a trip abroad, a meeting of Raspberry growers was held at Huonville in March. Sir Henry stated that this year there would be about 500 tons of surplus Raspberry pulp on the Australian market, and his firm had decided to instal canning plants at Hobart, New Norfolk, and Huonville to can a quantity of Raspberries, which would then be supplied to the mainland. These plants would cost about £20,000 to instal, and they would be capable of processing about 50,000 cases of canned Raspberries.

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Poultry Notes.

Conducted by Ian Hamilton.

ATTENTION MUST SOON be given to the mating up of breeding pens. To get the best results in the winter it is essential that only vigorous stock be used in the breeding pens.

All breeding birds must be well selected; physically sound, with vitality and constitutional vigour.

Then, again, the breeders must be kept healthy by being fed wholesome foods, which must not be over-stimulating.

It is impossible to get good stock from the eggs of weakling parents. The breeding pen is the foundation and stamina in the birds comprising it, should be the gospel that all should preach.

Each member of the breeding pen should have vitality and the power to live, thrive, and produce. Eggs from healthy and sound stock will hatch much better chicks than the eggs from weakling stock.

The eggs from the breeding stock that is out of condition either from in-breeding, insanitary quarters, improper foods, or sickness, will not produce the chickens that will lay a profitable number of eggs during the winter.

If a very hot spell is experienced it is sometimes advisable to give the birds a light feed of grain in the mornings in place of their hot mash.

The "best" breed of poultry is the one that secures the best attention.

To improve your stock you should introduce cockerels from some known and relable strain.

A sandy subsoil is best adapted to poultry breeding. The growth of stock in such a locality will be quicker than on hard clay soil, and the management of the flock will be found to be much easier.

Lime spread over the runs and a solution of lime wash and soapy water sprayed over the walls will keep the poultry pens clean.

SOME POINTS ON CULLING.

THIS IS THE TIME of the year when good judgment and experience in handling flocks will contribute very materially to success, writes the N.S.W. Agricultural Gazette. The objective should be to cull out the prospective unprofitable units in the flock without disposing of those that are likely to be profitable units perhaps for months to come.

In this connection the N.S.W. Government Poultry Expert points out that many poultry-farmers by faulty management check the laying of their hens, and thereby induce an early moult. The early moulter is most likely to go through a second moult, and thus laying will be retarded till the end of the winter. The hens that moult late are generally the high producers.

Points About Culling.

"Yes, that is the idea"—one can almost hear it from readers of these notes; "what we want to know is how to cull. What about some system that will enable even the novice to cull?"

The mind of the beginner at once reverts to some advertised system of "picking the layers," and he imagines that if he could only pick the layers from the non-layers the thing would be simple.

It is a very simple matter to do this either by an anatomical test, such as the closing and rigidity of the pelvic bones situate on either side of the cloaca, or by observation of the condition and colour of the comb, and the sprightliness or otherwise of the hens.

These signs enable the person of average intelligence to pick out the hen that is not laying from the one that is, and the merest tyro in poultry matters should be able to do this.

But what is not simple is to bring the average beginner to a realisation of the fact that such methods of selection are only the A B C of the subject, and that they do not take the place of the judgment that has to be formed on the many other factors that must enter into the calculation.

If poultry-farmers were to spend on the study of their flocks a tithe of the time and thought (not to mention money) that they give to the pursuit of short-cut "systems" they would be much more successful in the business.

The Real Question.

The mere determination whether or not a hen is actually laying by no means ends the matter. The question then arises, what class of hen she is. Is she a prospective good layer, has she been so, or is she a weedy specimen, with small eyes, and altogether lacking in character?

It must also be asked: Has she started to moult, and if so, is she moulting heavily, or is she moulting so slowly that she is likely to resume laying after a short spell?

Again, is the hen actually in a natural moult, or is the loss of feathers due to other causes, such as feather-eating, or is bare patch on the back the result of being in the breeding pen? Many hens that look dilapidated in feather may be so as a result of such causes, and although perhaps temporarily off laying, may resume again, and prove to be what is known as "late moulters," in which case they may be most profitable hens to keep from the fact that they will perhaps lay through the next two or three months, when eggs are high in price.

Beware of Measurements Alone.

These are the factors that enter into the consideration whether a hen should be disposed of or not. After all, there should not be a large proportion of hens rising their second year that should require culling.

In a flock of hens of good physique that have been well reared in the first place, and subsequently well managed, there should not be a large proportion of unprofitable units to cull, probably not more than 10 per cent. that would not at least return some profits in their second season of laying, even under present conditions.

Much the same remarks apply to pullets just maturing. To apply pelvic bone measurements or tests to them leads to throwing hundreds of good pullets out. There should not be more than 5 to 8 per cent. to cull, providing they are well-grown pullets.

Australia as an Egg Exporter.

It has been customary to doubt our ability to compete as egg producers with those countries with cheaper labour which have previously satisfied the English demand for eggs, but the factor that counts most in our favour and to which due weight has not been given is that our flush season of production is their period of low production. This, together with the cost of storage and the fact that eggs cannot be kept indefinitely in cold storage without deterioration, bring Australia into a more or less favourable position in this respect.

The facts are that Australian eggs are competing favourably and returning to the producer an equivalent of the price ruling here in the cheap season when the eggs are shipped. Those best qualified to judge see promise of a very large trade in export eggs in shell.

* * *

EGG PRODUCERS' FEDERATION.

THE AIM OF the Victorian Egg Producers' Federation, now that it is firmly established, is to keep the quality of the "Golden Yolk" brand of eggs well up to the standard, as only in this way can enhanced prices be maintained. Numbered rubber stamps will be issued and the registered number on each egg, indicating the individual producer, will be an indication of quality.

The Federation is loth to anticipate that any of its members will fail to recognise this, but if it should happen that among the large and ever increasing membership there should be any established cases of carelessness or misuse or the Federation's brand the culprit will be dealt with, and the numbered stamp withdrawn from his use.

These stamps will in no case become the property of any member, but will at all times remain in the ownership of the Federation, and will only be issued on each member's personal undertaking in accordance with the above

In Adelaide the brand of best eggs is "Red Comb," and the members of that Association have been so careful about the uniformly high grade of eggs they stamp, that now the public who want the best simply ask for "a dozen **Red Comb.**"

The Victorian Egg Producers' Federation's "**Golden Yolk**" egg must similarly gain pride of place in Victoria.

The suburban producers as a body are now waking up to what the organisation means to them. The poultry industry now ranks fifth on the list of primary productions, and thanks to the numerous Victorian papers regularly publishing information of interest to this State's constantly expanding producers interests, the Federation is now receiving more applications for speakers to address meetings in the larger country centres than it can immediately deal with. Bendigo comes next. However, it is not necessary for any group or even individual to wait for a local meeting. The Organising Secretary, Mr. A. F. McPhail—whose new address is 2 Slaney-street, Caulfield, Vic.—will mail essential information, and subsequently visit outlying districts as soon as his opportunity comes.

Beekeeping Notes

BEES SHOULD on no account be allowed access to honey outside their own hive.

Robber bees are not a different strain of bees, as some bee-keepers assume, but are merely bees that have discovered that it is easier to carry home honey—the finished product—that to fly long distances to collect the raw material—the nectar of flowers.

Candy, the food that is supplied to queens and their escort of workers in the cages forwarded through the post, consists of a mixture of sugar and honey, in such relative proportions that it is about the consistency of putty. It must neither be too stiff or too soft.

In hunting for queens, or examining brood for disease, it is necessary to see both sides of each comb. In doing so remember that a comb should never be turned on a horizontal, but always on a vertical axis.

How soon will an introduced queen begin to lay?

As a general thing, we may expect her to begin laying the next day, but sometimes, especially if the queen has been a long time prevented from laying, as in the case of an imported queen, she may not lay for three or four days or even a week.

If introduced in the Autumn, she may not commence laying at all until spring, unless the colony is fed regularly every day for a week or more. This will always start a queen laying if she's any good at all, provided the weather is warm enough.

ANTS.

ANTS ARE OFTEN TROUBLESOME in an apiary, and while the number of bees actually destroyed by certain species is not very large, they keep bees in a state of excitement, resulting in the stinging of persons and animals coming near the hives. There are four out of the many species of ants which annoy bees more than the rest. These are the red ant, the sugar ant, the black wood ant and the small black ant. The best means of destroying ants is by the use **of carbon bisulphide**, such as is used for destroying rabbits in their burrows. During a cold day or towards evening put a tablespoonful of the liquid into each hole and immediately close it up. The gas into which the liquid evaporates is heavier than air and penetrates to the lowest depths of the ant nest, destroying ants, larvae, and eggs. It is highly inflammable and explosive, and great care should therefore be taken in handling it, and no light allowed within a considerable distance. It should not be exploded after it is applied to the ant-hill, as some suppose.

* * *

ENEMIES—THEIR PREVENTION AND REMEDIES.

THE WORST ENEMIES of bee-keeping are the three brood diseases comprised under the general term of foul-brood and a disease affecting adult bees called bee-paralysis. Other enemies of bees are insects and birds of several species.

A good hive, filled with a strong colony of Italian bees (says F. R. Beuhne, Victorian Government Agriculturalist) is the best preventive against these pests.

Cleanliness is of the greatest importance, and to obtain this only frame hives should be used.

All moths, cocoons, and larvae should be destroyed when found about the hive.

All hives should be made of timber sufficiently thick to prevent splitting or warping, and the boxes should fit closely to the **bottom board.**

If the timber is cracked it will enable moths to enter and deposit their eggs near the honeycomb.

Empty or partly filled combs removed from the hives at the end of the season, should be a once put beyond the reach of the wax moth. If left standing about, even for a few hours, the odour of the combs attracts the female moth, who deposits her eggs upon them.

THE AUTUMN FLOW OF NECTAR.

During good seasons it is generally found that a large quantity of honey is extracted at this period of the year. This season, however, the prospects are not bright, except for those bee-farmers who are expecting an autumn flow of honey.

Good general rain is needed previous to the flowering of the flora to assure a good secretion of nectar.

Where conditions have been adverse for some considerable time, the prospects offering for the autumn should give much encouragement to bee-farmers.

Bees will withstand hard times through a season, but they require some stimulating conditions during the autumn to give the colonies a chance to prepare for the hardships of winter.

Moreover, apart from an improvement in the conditions and prospects of the colonies, apiarists are looking forward to obtaining some surplus from the hives.

Prepare the Colonies.

The bee-farmer who knows his locality will have a good idea regarding the time the trees will commence to flower, and much can be done to prepare the colonies so that the best results may be obtained.

It is a good plan usually to give stimulating food for a few weeks previous to the flowering of the flora, so as to give the bees a start.

It is better to start the bees artificially and to let them come into good natural conditions in the right spirit, rather than to allow them to wait and make their own start after the flow comes on.

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Stimulating the Colonies.

Where a large number of colonies are kept it is a difficult matter to put food in each hive daily, and it is the usual practice therefore in large apiaries to give about 6 lb. of sugar syrup, or honey slightly thinned down with water, in one quantity, that being about sufficient for a week's supply. The bees will distribute the new supply of stores about the brood nest, and use it freely for brood raising.

In smaller apiaries the practice of giving about a pint of food daily is very effective. The supply mentioned is for a fairly populous colony; if colonies are weak in population less may be given.

This "feeding on spec" is not often necessary, and many bee-farmers do not carry a stock of special feeders for their hives. Where no feeders are on hand the honey or syrup can be poured into empty combs, and after draining for a while the combs can be placed in the hives.

Do the feeding work late in the afternoon to prevent risk of robbing. If honey is to be fed to the bees make sure it comes from a source free from disease.

(Victoria, Continued from page 139)

FRUITGROWERS' COOL STORES' ASSOCIATION OF VICTORIA.

The quarterly meeting of the Fruitgrowers' Cool Stores' Association of Victoria was held at Melbourne on 21st February, 1923. Present: Messrs. A. J. Harris (Blackburn); R. Langley (Croydon); R. M. Finlay (Diamond Creek); Ed. Daws (Doncaster Central); T. N. Cuttle (East Burwood); G. T. Knee & W. Johnston (East Doncaster); J. H. Lang (Harcourt); J. M. Watt (Hastings); C. H. Coleman (Mount Waverley); A. Haig & E. A. Callaway (Red Hill); J. W. Barrett & P. T. Young (Ringwood); R. Mair, J. H. Young & F. Stockton (Tyabb), and the Secretary, Mr. J. G. Aird.

Mr. R. Mair (Tyabb) occupied the chair.

Fruit for Experiment.—The Secretary reported that the Assistant Minister for Agriculture had agreed to the purchase of fruit by the Department for experimental purposes.

Institute of Refrigeration.—Decided to apply for admission to membership in the Victorian Institute of Refrigeration.

Use of Coke.—Mr. Wilmot, manager Bi-Products Department of the Metropolitan Gas Co., attended and discussed fuel problems with the result that a lot of uneasiness as to the probable deterioration of plants by the use of coke was overcome.

Correspondence was received from the Royal Agricultural Society inviting attention to the reduction in varieties for district exhibits. It was pointed out that if each store would enter and stage an exhibit it would be a great advertisement for the industry. Every store is urged to make an effort to stage a district exhibit at the next Royal Show.

It was decided to donate a Grand Perpetual Challenge Shield, valued £10 10s., for competition in the District Display section amongst affiliated stores at the Royal Agricultural Society's Show.

It was resolved that the next Conference be held at Harcourt this year, and Red Hill the following year.

Agreed, that the Rules be amended to allow individual fruitgrowers who own cool stores to become members of the Association on payment of prescribed fees.

The scale of affiliation fees was fixed as follows:—Stores up to 5,000 cases, £1/1/- per annum; stores up to 10,000 cases, £2/2/- per annum; over 10,000 and companies, £3/3/- per annum, payable 1st July in each year.

CHARLES DICKENS

—the great master writer—said :—"Trust in nothing but Providence and your own efforts—never separate the two"—at the same time it should be wise, if you suffer from Indigestion or Liver trouble, to take with each meal a small dose of A.M.S.—say 30 drops for a start—then you will not only be successful in your life, but bright and happy and always fit for a game with the kids. A.M.S. is sold by all chemists and country storekeepers at 3/- Manufactured by T. A. Dickson, Chemist, Geelong, Vic.

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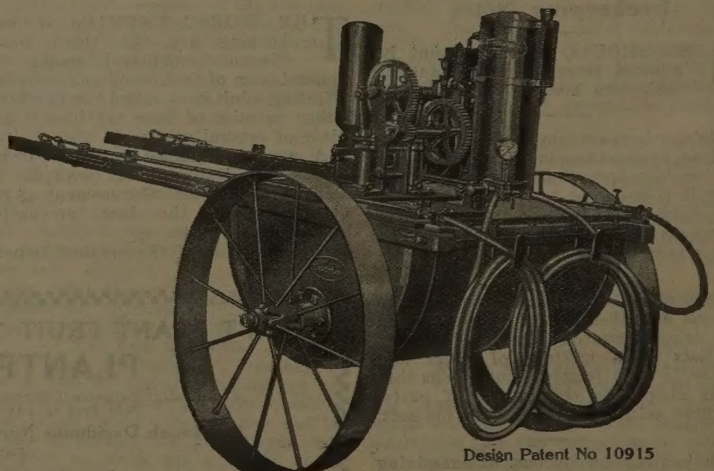

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It pays best to send Consignments Regularly — Not Occasionally — to the best markets, by doing so you strike the rising and falling markets and make a fair average for the season.

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Sydney.
Chilton, F., City Fruit Markets.
Hopkins & Lipscombe, Fruit Exchange.
Rogers, F. H. G., Fruit Exchange.
Rule & Beavis, Fruit Exchange.
Wade, Noel, V., Royal Exchange (representing the North of England Fruit Brokers Ltd., Manchester, Eng.).
Wade, Capt. W. J., M.B.E., 8 Bridge St. (representing Port of Manchester).

VICTORIA.

Melbourne.
Coastal Farmers' Co-op. Society, Western Market.
Davis, J., Western Market.
Dennys, Lascelles Ltd., 509 Collins Street.
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Mills & Co., J. B., 9 Queen Street (representing Nothard, Lowe & Wills Ltd., London).
Millis, A., & Sons, Western Markets.
McClure, Valantine & Co. Pty. Ltd., 49 William St.
Mumford, J. G., 449 Flinders Lane.
Pang & Co. Ltd., H. L., Little Bourke St.
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Stott & Son, T., Western Markets.
Tim Young & Co., Western Market.
Vear, F. W., 49 William Street.
Wade & Co., H. M., 439 Flinders Lane.
Woolf, G., Western Market.

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Landauer & Co., 39 Eastcheap.
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North of England Fruit Brokers Ltd., Port of Manchester (representative Capt. W. J. Wade, M.B.E., 8 Bridge St., Sydney, N.S.W.

British and Australasian Market Reports

Great Britain.

The following are the prices ruling at the Covent Garden Market, as published in the "Fruit, Flower and Vegetable Trades' Journal," March 3rd, 1923:—

Apples—English, 2/- to 7/- per bushel; Oregon, Jonathan, 11/- to 13/-; Newtons, 13/- to 15/-; Bananas— Fyffe 13/- to 24/-; Hoya, 22/6 to 37/6. Dates— 5/- to 6/-. Grapes—English Alicante, 3/- to 4/- per lb.; Almeria, 28/- to 32/- per barrel. Lemons—Messina's 300's 22/- to 25/-; Murcia—300's 15/- to 17/6. Oranges—Denia and Valences 420's, 20/- to 30/-; 240's 20/- to 25/-. Pears—Winter Nelis, 27/6 to 30/-. Pines—1/3 to 5/- each. **South African Fruit** realised the following prices per box. Apricots—4/6 to 6/-; Peaches—5/- to 12/-; Nectarines—6/- to 10/-; Plums—4/6 to 8/-; Pears—Williams, 5/- to 6/-.

New South Wales.

Mr. F. Chilton, City Fruit Markets reports under date 23/ 3/ 23:—

Queensland Fruits: Pines—Smooths 6/- to 11/- per case. Custard Apples 8/- to 12/- per tray. New South Wales Fruits: Bananas—18/- to 28/- per case. Oranges—12/- to 22/- per bushel, c/s., Second Crop, 4/- to 12/-. Lemons—10/- to 18/-. Apples—Jonathan, 6/- to 10/-; Granny Smith, 4/- to 8/-; Small and Inferior grades, 2/- to 4/-; Pears—Dessert, 6/- to 10/-; Cooking, 4/- to 5/-. Quinces—3/- to 6/-. Persimmons—3/- to 6/- per ½ case. Tomatoes—2/6 to 9/- Passions—8/- to 20/-. Peaches—3/- to 4/6. Grapes—Muscat, 4/- to 11/-. Doradillo, 3/- to 6/-; Cornichon, 4/- to 8/-. Victorian Fruits: Apples—Johnathan 6/- to 9/- per bushel, case., London Pippin, 4/- to 6/-. Pears—B. D. Cap, 5/- to 8/-., Williams, 6/ to 10/-. Peaches—6/- to 9/-. Tasmanian Fruits: Apples—Alfriston, 4/- to 6/- per bushel, case., Alex, 4/- to 6/-; D. C. 4/- to 7/-; F. C. 5/- to 7/; Lady in Snow, 4/- to 8/-; Jonathan, 6/- to 9/-; C.O.P. 5/- to 7/-. Pears—W. Cole 4/- to 5/6 per ½ case; G.B. 3/6 to 5/-; B.D.C. 3/- to 4/-; O.B. 3/- to 4/-; B. Clairgeau, 2/6 to 3/6.

The tremendous glut of apples which congested the market for some weeks is now beginning to clear off, and prices are improving slightly for all choice lines.

Dessert pears, peaches, grapes are meeting with a steady demand. Lemons are easing in consequence of cooler weather. Pineapples are in poor demand as there is a large percentage of this fruit arriving in very bad condition although not over-ripe.

Victoria.

Melbourne (26/3/23)—

The following are the prices ruling at the Western Market:—

Apples—Good to choice eating, 3/- to 5/-; good to choice cooking, 2/6 to 4/-. Bananas—Queensland, 21/- to 28/- double case. Grapes—Muscatels, 5/6 to 11/-; Doradillo, 4/6 to 7/-; Waltham, 6/6 to 11/-; R. Prince and B. Prince, 6/6 to 10/-. Lemons—Victorian, 9/- to 12/-. Passion Fruit—Victorian, 10/- to 14/-. Peaches—Good to choice dessert, 5/- to 6/-; medium dessert, canning, 3/6 to 4/6. Pears—Keiffer's, 3/- to 5/-; others, 2/6 to 5/-. Pineapples—Queens, 8/6 to 10/- double case.

Queensland.

Brisbane (20/3/23)—

Apples—Victorian Jon., 8/6 to 10/- per bushel case; Rennet, 8/- to 8/6; Tasmanian, D.C., 8/- to 8/6; Worc., 8/- to 8/6; F.C., choice, 9/- to 10/-; B.P. and C.O.P., 6/- to 7/6; A.L.F., M.F., and R.P., 7/- to 8/6; Stanthorpe, 3/- to 8/-. Pears—Victorian, Caps, choice, 9/- to 11/-; medium, 5/- to 8/-; G.B., 9/- to 11/-; Ganz, 9/6 to 11/6; Tasmania, B.B., 8/- to 10/-; Caps, 8/- to 11/-; G.B., 9/- to 11/-; B.D.C., 4/- to 5/6 per ½ bushel; B.B. and T.B., 4/- to 5/6. Oranges—Local,, 10/- to 15/- per bushel case; green, 7/- to 9/-. Lemons—Italian, 18/- to 20/-; S.A., 16/- to 18/-. Peaches—Special, 7/6 to 9/-; others, 4/- to 7/-. Plums—Prime, 9/- to 10/6. Bananas—Cavendish, choice, 5d. to 7¾d. per doz.; Sugar, 3d. to 9d. Passion Fruit—14/- to 18/- ½ bushel case. Grapes—Black, 5d. to 7d. per lb; Gros, special, 9d.; White, 4½d. to 6d.; Muscatels, 6d. to 8d. Pines—Choice rough, 7/- to 8/- per doz.; Smooth, 3/- to 6/-.

Western Australia.

Perth (16/3/23)—

Apples—Jon., dumps, best, to 8/9; others, to 5/-; flats, best, 5/- to 6/6; others, to 4/-; Cleos., dumps, to 7/-;

flats, to 5/-; Dunn's flats, 3/- to 5/-. Pears—Bartlett's, dumps, best, to 9/6; others, to 5/-; flats, best, 8/- to 10/-; others, to 4/6; Bergamot's, dumps, to 5/9; flats, best, to 5/-; others, to 3/6; Beurre, to 3/9. Oranges—Best, to 13/6; large, to 6/-. Lemons—Dumps, to 9/6; flats, best, to 12/3; large, to 10/-. Peaches—Best, 9/- to 14/3; others, to 4/6. Plums—Dark, prime, to 16/3; overripe, to 7/-; Satsuma, to 12/3; Kelsey, to 12/. Passion Fruit—Best, 9/- to 13/-. Grapes—Best, 7/- to 9/6; others, to 5/6.

South Australia.

Adelaide (22/3/23)—

Fruit: Apples—Eating, 6/- to 8/- per case; cooking, 5/-. Figs—8/- to 10/-. Grapes—Dark, 6/- to 7/-; White, 6/- to 7/-; Muscatels, 6/- to 8/-. Lemons—8/- to 9/-. Nuts: Almonds—12/- per doz. lb.; Brazils, 13/-; Walnuts, 14/-. Oranges—10/- to 11/- per case. Peaches—3/- to 5/-. Pears—Eating, 6/- to 8/-; Cooking, 4/-. Plums—Damson, 12/- to 14/-. Quinces—2/6 to 3/-. Bananas—Queensland, 32/-. Fruit prices are without cases.

New Zealand.

Dunedin (12/3/23)—

Reilly's Central Produce Mart Ltd. report, under dates 12/3/23, as follows:—

At the moment there is practically no alteration in regard to our market. If Australian Grapes are consigned to Dunedin and in moderate quantities, and if they arrive in good order, 30-lb. boxes would probably realise about 25/- per box. Pineapples are scarce and really first-class Pines would sell at about 16/- to 18/- per case. Large quantities of Bananas are coming forward from Rarotonga and Suva, and it would not pay to ship Queensland Bananas to this market at the present time. Persimmons and Loquats, if forwarded to this market, a nice sample, on the firm side, would realise good values. At the moment our market is fully supplied with Italian and American Lemons, and we cannot recommend consignments from Australia. Early consignments of Mandarins should realise good values. Large supplies of Apples, Pears, Peaches, Apricots and Plums arrive daily on this market, and this restricts the sale of imported fruits.

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Large Receivers of Australian Fruits.
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SUBSCRIBERS' PAYMENTS RECEIVED.

The following are the subscriptions received from February 20th to March 20th, 1923. The month quoted in parenthesis indicates to what date the subscription is paid. These are exclusive of the subscribers who have paid to local agents or to our offices in the various States:—

M. G. Anderson (Dec., '23), J. W. Andrew (Feb., '24), W. G. Boyd (Oct., '24), T. Brown & Sons (Nov., '23), F. Cave (Dec., '23), W. H. Crow (Jly., '23), F. L. Edmunds (Jan., '24), R. M. Finlay (Jly., '23), Govt. Exp. Farm, Wagga (Dec., '23), Grasselli Chemical Co. (Dec., '23), S. H. Artwick (Sep., '23), G. T. H. Heeschen (May, '23, H. G. R. Heyward (Dec., '23), F. W. Hibbert (Mar., '24), Major H. E. Jones (Dec., '23), W. J. Johnson (Sep., '23), H. Kerr (Dec., '23), A. Kieselbach (Sep., '23), John Kinsella (Jan., '24), B. Krone (Feb., '24), S. Lee (Feb., '24), N.S.W. Bookstall Co. Ltd. (Jan., '24), J. P. O'Callaghan (Dec., '23), Pitt Bros. (June, '24), W. Pickles (Dec., '24), S. H. Pogson (Jan., '24), T. Price (Jan., '24), V. Rieschieck (Dec., '23), G. Roddy (Feb., '24), E. C. Short (Sep., '23), W. Sissons (June, '23), S. Stott (Dec., '23), I. L. Stone (Feb., '24), A. J. Tilley (Dec., '23), W. H. Palthe van Wesenhagen (Dec., '23), Vic. Cent. Citrus Assoc. (Jan., '24), R. Wilkinson (Jan., '24), Worsley Bros. (Aug., '24), E. J. Wright (Jan., '24).

McCLURE, VALANTINE and CO., MELBOURNE.

We are requested to announce that the long-established firm of McClure, Valantine and Co., 49-57 William-street, Melbourne, is under entirely new control. The management is now in the hands of Mr. C. Beaumont, who has had experience both here and in England in the handling of fruit (fresh dried and canned). Mr. Beaumont still maintains his London connections, and advises that he has exceptional facilities for developing the export trade in fruits, particularly dried fruit.

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GRAPES, CHERRIES, PEARS, EARLY PLUMS, APRICOTS, CITRUS FRUITS OF ALL DESCRIPTIONS, PINES, PASSIONS, ETC., ETC.

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